



Q1 Water Samples

1 message

rory@slvrstar.com <rory@slvrstar.com>

Mon, Feb 25, 2013 at 3:22 PM

To: Robert Oswald <Bob.OsWald@state.co.us>

Cc: John Trujillo <jrtrujillo@slvrstar.com>

Hi Bob,

I have attached our quarter 1 water sample information for the Revenue Mine. Please let me know if there is anything else you need.

Thanks,

Rory

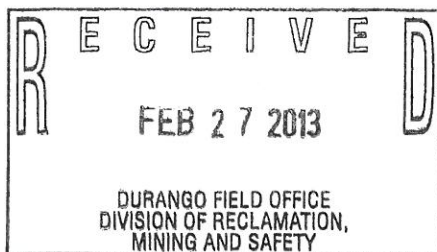
M-2012-032
1ST QTR 2013 WATER
QUALITY REPORTS

3 attachments

 1st Quarter Water20130219_0083.pdf
257K

 L10541.pdf
629K

 L10542.pdf
708K



February 19, 2013

Report to:

John Trujillo
Trujillo Development
219 10th Avenue
Ouray, CO 81427

Bill to:

Lauren Frommer
Star Mine Operations LLC
1675 Larimer Street Suite 820
Denver, CO 80202

cc: Rory Williams, Greg Lewicki

Project ID: Revenue/Starmine

ACZ Project ID: L10541

John Trujillo:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 07, 2013. This project has been assigned to ACZ's project number, L10541. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L10541. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 19, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed
and approved this report.



Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: SW-2 SNEFFELS CREEK ABOVE ATLAS DRAI

ACZ Sample ID: **L10541-01**

Date Sampled: 02/06/13 12:15

Date Received: 02/07/13

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/08/13 11:42	lhb
Cyanide, WAD	SM4500-CN I- distillation							02/08/13 16:40	lhb
Total Hot Plate Digestion	M200.2 ICP							02/12/13 11:05	jjc
Total Hot Plate Digestion	M200.2 ICP-MS							02/12/13 17:46	las

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: SW-2 SNEFFELS CREEK ABOVE ATLAS DRAI

ACZ Sample ID: **L10541-01**

Date Sampled: 02/06/13 12:15

Date Received: 02/07/13

Sample Matrix: Surface Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 9:35	jjc
Aluminum, total	M200.7 ICP	0.04	B		mg/L	0.03	0.2	02/13/13 11:26	jjc
Antimony, dissolved	M200.8 ICP-MS	0.0012	B		mg/L	0.0004	0.002	02/14/13 23:17	msh
Antimony, total	M200.8 ICP-MS	0.0012	B	*	mg/L	0.0004	0.002	02/13/13 22:09	pmc
Arsenic, dissolved	M200.8 ICP-MS	0.0010			mg/L	0.0002	0.001	02/14/13 23:17	msh
Arsenic, total	M200.8 ICP-MS	0.0010			mg/L	0.0002	0.001	02/13/13 22:09	pmc
Barium, dissolved	M200.7 ICP	0.060			mg/L	0.003	0.02	02/11/13 18:15	jjc
Barium, total	M200.7 ICP	0.062			mg/L	0.003	0.02	02/13/13 11:26	jjc
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:17	msh
Beryllium, total	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 16:05	scp
Boron, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:29	jjc
Boron, total	M200.7 ICP	0.01	B		mg/L	0.01	0.05	02/13/13 11:26	jjc
Cadmium, dissolved	M200.8 ICP-MS	0.0001	B		mg/L	0.0001	0.0005	02/14/13 23:17	msh
Cadmium, total	M200.8 ICP-MS	0.0001	B		mg/L	0.0001	0.0005	02/13/13 22:09	pmc
Calcium, dissolved	M200.7 ICP	35.0			mg/L	0.2	1	02/11/13 15:29	jjc
Calcium, total	M200.7 ICP	36.4			mg/L	0.2	1	02/13/13 11:26	jjc
Chromium, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/14/13 23:17	msh
Chromium, total	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/13/13 22:09	pmc
Copper, dissolved	M200.8 ICP-MS	0.0021	B		mg/L	0.0005	0.003	02/14/13 23:17	msh
Copper, total	M200.8 ICP-MS	0.0005	B		mg/L	0.0005	0.003	02/13/13 22:09	pmc
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	02/11/13 15:29	jjc
Iron, total	M200.7 ICP		U		mg/L	0.02	0.05	02/13/13 11:26	jjc
Lead, dissolved	M200.8 ICP-MS	0.0002	B		mg/L	0.0001	0.0005	02/14/13 23:17	msh
Lead, total	M200.8 ICP-MS	0.0007			mg/L	0.0001	0.0005	02/13/13 22:09	pmc
Magnesium, dissolved	M200.7 ICP	3.1			mg/L	0.2	1	02/11/13 15:29	jjc
Magnesium, total	M200.7 ICP	3.3			mg/L	0.2	1	02/13/13 11:26	jjc
Manganese, dissolved	M200.7 ICP		U		mg/L	0.005	0.03	02/11/13 18:15	jjc
Manganese, total	M200.7 ICP	0.007	B		mg/L	0.005	0.03	02/13/13 11:26	jjc
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/12/13 14:43	mfm
Mercury, total	M245.1 CVAA		U		mg/L	0.0002	0.001	02/14/13 16:19	mfm
Molybdenum, dissolved	M200.8 ICP-MS	0.0015	B		mg/L	0.0005	0.003	02/14/13 23:17	msh
Molybdenum, total	M200.8 ICP-MS	0.0016	B		mg/L	0.0005	0.003	02/13/13 22:09	pmc
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:29	jjc
Nickel, total	M200.7 ICP		U		mg/L	0.01	0.05	02/13/13 11:26	jjc
Potassium, dissolved	M200.7 ICP	0.6	B		mg/L	0.3	2	02/11/13 15:29	jjc
Potassium, total	M200.7 ICP	0.5	B		mg/L	0.3	2	02/13/13 11:26	jjc
Selenium, dissolved	M200.8 ICP-MS	0.0006			mg/L	0.0001	0.0003	02/16/13 3:55	pmc
Selenium, total	M200.8 ICP-MS	0.0006			mg/L	0.0001	0.0003	02/13/13 22:09	pmc
Silica, dissolved	M200.7 ICP	5.0			mg/L	0.4	2	02/11/13 18:15	jjc
Silica, total	M200.7 ICP	5.1		*	mg/L	0.4	2	02/13/13 11:26	jjc
Silver, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:17	msh
Silver, total	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/13/13 22:09	pmc
Sodium, dissolved	M200.7 ICP	3.5			mg/L	0.3	2	02/11/13 15:29	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine
Sample ID: SW-2 SNEFFELS CREEK ABOVE ATLAS DRAI

ACZ Sample ID: **L10541-01**

Date Sampled: 02/06/13 12:15

Date Received: 02/07/13

Sample Matrix: Surface Water

Sodium, total	M200.7 ICP	3.1		mg/L	0.3	2	02/13/13 11:26	jjc
Thallium, dissolved	M200.8 ICP-MS		U	mg/L	0.0001	0.0005	02/14/13 23:17	msh
Thallium, total	M200.8 ICP-MS		U	mg/L	0.0001	0.0005	02/13/13 22:09	pmc
Uranium, dissolved	M200.8 ICP-MS		U	mg/L	0.0001	0.0005	02/14/13 23:17	msh
Uranium, total	M200.8 ICP-MS	0.0001	B	mg/L	0.0001	0.0005	02/13/13 22:09	pmc
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	02/11/13 15:29	jjc
Vanadium, total	M200.7 ICP		U	mg/L	0.005	0.03	02/13/13 11:26	jjc
Zinc, dissolved	M200.7 ICP	0.07		mg/L	0.01	0.05	02/11/13 15:29	jjc
Zinc, total	M200.7 ICP	0.08		mg/L	0.01	0.05	02/13/13 11:26	jjc

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		37			mg/L	2	20	02/13/13 0:00	abm
Carbonate as CaCO3			U		mg/L	2	20	02/13/13 0:00	abm
Hydroxide as CaCO3			U		mg/L	2	20	02/13/13 0:00	abm
Total Alkalinity		37			mg/L	2	20	02/13/13 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			02/19/13 0:00	calc
Sum of Anions		2.2			meq/L	0.1	0.5	02/19/13 0:00	calc
Sum of Cations		2.2			meq/L	0.1	0.5	02/19/13 0:00	calc
Chloride	SM4500Cl-E		U	*	mg/L	1	5	02/13/13 15:28	lhb
Conductivity @25C	SM2510B	233			umhos/cm	1	10	02/13/13 18:12	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/09/13 0:20	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/08/13 23:28	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	02/11/13 16:16	abm
Hardness as CaCO3	SM2340B - Calculation	100			mg/L	1	7	02/19/13 0:00	calc
Lab Filtration (0.45um) & Acidification	M200.7/200.8							02/08/13 12:00	las
Lab Filtration (glass fiber filter)	SOPWC050							02/07/13 14:35	ljr
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.12		*	mg/L	0.02	0.1	02/13/13 23:24	pjb
pH (lab)	SM4500H+ B								
pH		8.0	H		units	0.1	0.1	02/13/13 0:00	abm
pH measured at		22.0			C	0.1	0.1	02/13/13 0:00	abm
Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	0.02	B	*	mg/L	0.01	0.05	02/07/13 21:51	pjb
Residue, Filterable (TDS) @180C	SM2540C	160			mg/L	10	20	02/07/13 16:28	ljr
Residue, Non-Filterable (TSS) @105C	SM2540D		U		mg/L	5	20	02/08/13 14:19	abm
Sulfate	D516-02 - Turbidimetric	68		*	mg/L	5	30	02/18/13 15:51	lhb
TDS (calculated)	Calculation	138			mg/L	10	50	02/19/13 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.16						02/19/13 0:00	calc

Star Mine Operations LLC

Project ID: Revenue/Starmine
Sample ID: SW-3 SEEP FROM REVENUE LAKE

ACZ Sample ID: **L10541-02**
Date Sampled: 02/06/13 12:30
Date Received: 02/07/13
Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/08/13 11:48	lhb
Cyanide, WAD	SM4500-CN I- distillation							02/08/13 16:50	lhb
Total Hot Plate Digestion	M200.2 ICP-MS							02/12/13 17:58	las
Total Hot Plate Digestion	M200.2 ICP							02/12/13 11:44	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: SW-3 SEEP FROM REVENUE LAKE

ACZ Sample ID: **L10541-02**

Date Sampled: 02/06/13 12:30

Date Received: 02/07/13

Sample Matrix: Surface Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 9:38	jjc
Aluminum, total	M200.7 ICP		U		mg/L	0.03	0.2	02/13/13 11:35	jjc
Antimony, dissolved	M200.8 ICP-MS	0.0014	B		mg/L	0.0004	0.002	02/14/13 23:21	msh
Antimony, total	M200.8 ICP-MS	0.0014	B		mg/L	0.0004	0.002	02/13/13 22:12	pmc
Arsenic, dissolved	M200.8 ICP-MS	0.0007	B		mg/L	0.0002	0.001	02/14/13 23:21	msh
Arsenic, total	M200.8 ICP-MS	0.0007	B		mg/L	0.0002	0.001	02/13/13 22:12	pmc
Barium, dissolved	M200.7 ICP	0.032			mg/L	0.003	0.02	02/11/13 18:18	jjc
Barium, total	M200.7 ICP	0.035			mg/L	0.003	0.02	02/13/13 11:35	jjc
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:21	msh
Beryllium, total	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 16:08	scp
Boron, dissolved	M200.7 ICP	0.01	B		mg/L	0.01	0.05	02/11/13 15:32	jjc
Boron, total	M200.7 ICP		U		mg/L	0.01	0.05	02/13/13 11:35	jjc
Cadmium, dissolved	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	02/14/13 23:21	msh
Cadmium, total	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	02/13/13 22:12	pmc
Calcium, dissolved	M200.7 ICP	38.3			mg/L	0.2	1	02/11/13 15:32	jjc
Calcium, total	M200.7 ICP	42.0			mg/L	0.2	1	02/13/13 11:35	jjc
Chromium, dissolved	M200.8 ICP-MS		U	*	mg/L	0.0005	0.002	02/14/13 23:21	msh
Chromium, total	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/13/13 22:12	pmc
Copper, dissolved	M200.8 ICP-MS		U	*	mg/L	0.0005	0.003	02/14/13 23:21	msh
Copper, total	M200.8 ICP-MS	0.0008	B		mg/L	0.0005	0.003	02/13/13 22:12	pmc
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	02/11/13 15:32	jjc
Iron, total	M200.7 ICP		U		mg/L	0.02	0.05	02/13/13 11:35	jjc
Lead, dissolved	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	02/14/13 23:21	msh
Lead, total	M200.8 ICP-MS	0.0039			mg/L	0.0001	0.0005	02/13/13 22:12	pmc
Magnesium, dissolved	M200.7 ICP	2.2			mg/L	0.2	1	02/11/13 15:32	jjc
Magnesium, total	M200.7 ICP	2.5			mg/L	0.2	1	02/13/13 11:35	jjc
Manganese, dissolved	M200.7 ICP		U		mg/L	0.005	0.03	02/11/13 18:18	jjc
Manganese, total	M200.7 ICP	0.009	B		mg/L	0.005	0.03	02/13/13 11:35	jjc
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/12/13 14:45	mfm
Mercury, total	M245.1 CVAA		U		mg/L	0.0002	0.001	02/14/13 16:21	mfm
Molybdenum, dissolved	M200.8 ICP-MS	0.0015	B		mg/L	0.0005	0.003	02/14/13 23:21	msh
Molybdenum, total	M200.8 ICP-MS	0.0016	B		mg/L	0.0005	0.003	02/13/13 22:12	pmc
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:32	jjc
Nickel, total	M200.7 ICP	0.01	B		mg/L	0.01	0.05	02/13/13 11:35	jjc
Potassium, dissolved	M200.7 ICP	0.6	B		mg/L	0.3	2	02/11/13 15:32	jjc
Potassium, total	M200.7 ICP	0.5	B		mg/L	0.3	2	02/13/13 11:35	jjc
Selenium, dissolved	M200.8 ICP-MS	0.0004			mg/L	0.0001	0.0003	02/16/13 3:58	pmc
Selenium, total	M200.8 ICP-MS	0.0004			mg/L	0.0001	0.0003	02/13/13 22:12	pmc
Silica, dissolved	M200.7 ICP	5.8			mg/L	0.4	2	02/11/13 18:18	jjc
Silica, total	M200.7 ICP	5.7		*	mg/L	0.4	2	02/13/13 11:35	jjc
Silver, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:21	msh
Silver, total	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/13/13 22:12	pmc
Sodium, dissolved	M200.7 ICP	4.1			mg/L	0.3	2	02/11/13 15:32	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine
Sample ID: SW-3 SEEP FROM REVENUE LAKE

ACZ Sample ID: **L10541-02**

Date Sampled: 02/06/13 12:30

Date Received: 02/07/13

Sample Matrix: Surface Water

Sodium, total	M200.7 ICP	4.2		mg/L	0.3	2	02/13/13 11:35	jjc
Thallium, dissolved	M200.8 ICP-MS		U	mg/L	0.0001	0.0005	02/14/13 23:21	msh
Thallium, total	M200.8 ICP-MS		U	mg/L	0.0001	0.0005	02/13/13 22:12	pmc
Uranium, dissolved	M200.8 ICP-MS		U	mg/L	0.0001	0.0005	02/14/13 23:21	msh
Uranium, total	M200.8 ICP-MS	0.0001	B	mg/L	0.0001	0.0005	02/13/13 22:12	pmc
Vanadium, dissolved	M200.7 ICP	0.006	B	mg/L	0.005	0.03	02/11/13 15:32	jjc
Vanadium, total	M200.7 ICP		U	mg/L	0.005	0.03	02/13/13 11:35	jjc
Zinc, dissolved	M200.7 ICP	0.17		mg/L	0.01	0.05	02/11/13 15:32	jjc
Zinc, total	M200.7 ICP	0.18		mg/L	0.01	0.05	02/13/13 11:35	jjc

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		37			mg/L	2	20	02/13/13 0:00	abm
Carbonate as CaCO3			U		mg/L	2	20	02/13/13 0:00	abm
Hydroxide as CaCO3			U		mg/L	2	20	02/13/13 0:00	abm
Total Alkalinity		37			mg/L	2	20	02/13/13 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-4.2			%			02/19/13 0:00	calc
Sum of Anions		2.5			meq/L	0.1	0.5	02/19/13 0:00	calc
Sum of Cations		2.3			meq/L	0.1	0.5	02/19/13 0:00	calc
Chloride	SM4500Cl-E		U	*	mg/L	1	5	02/13/13 15:28	lhb
Conductivity @25C	SM2510B	262			umhos/cm	1	10	02/13/13 18:20	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/09/13 0:21	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/08/13 23:29	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	02/11/13 16:30	abm
Hardness as CaCO3	SM2340B - Calculation	105			mg/L	1	7	02/19/13 0:00	calc
Lab Filtration (0.45um) & Acidification	M200.7/200.8							02/08/13 12:05	las
Lab Filtration (glass fiber filter)	SOPWC050							02/07/13 14:37	ljr
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.19		*	mg/L	0.02	0.1	02/13/13 23:25	pjb
pH (lab)	SM4500H+ B								
pH		8.0	H		units	0.1	0.1	02/13/13 0:00	abm
pH measured at		22.0			C	0.1	0.1	02/13/13 0:00	abm
Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	0.01	B	*	mg/L	0.01	0.05	02/07/13 21:53	pjb
Residue, Filterable (TDS) @180C	SM2540C	180			mg/L	10	20	02/07/13 16:29	ljr
Residue, Non-Filterable (TSS) @105C	SM2540D		U		mg/L	5	20	02/08/13 14:20	abm
Sulfate	D516-02 - Turbidimetric	82		*	mg/L	5	30	02/18/13 15:51	lhb
TDS (calculated)	Calculation	156			mg/L	10	50	02/19/13 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.15						02/19/13 0:00	calc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: SW-4 SNEFFELS CREEK BELOW REVENUE S

ACZ Sample ID: **L10541-03**

Date Sampled: 02/06/13 12:45

Date Received: 02/07/13

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/08/13 11:54	lhb
Cyanide, WAD	SM4500-CN I- distillation							02/08/13 17:00	lhb
Total Hot Plate Digestion	M200.2 ICP-MS							02/12/13 18:10	las
Total Hot Plate Digestion	M200.2 ICP							02/12/13 11:56	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: SW-4 SNEFFELS CREEK BELOW REVENUE S

ACZ Sample ID: **L10541-03**

Date Sampled: 02/06/13 12:45

Date Received: 02/07/13

Sample Matrix: Surface Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 9:47	jjc
Aluminum, total	M200.7 ICP	0.11	B		mg/L	0.03	0.2	02/13/13 11:38	jjc
Antimony, dissolved	M200.8 ICP-MS	0.0015	B		mg/L	0.0004	0.002	02/14/13 23:24	msh
Antimony, total	M200.8 ICP-MS	0.0017	B		mg/L	0.0004	0.002	02/13/13 22:16	pmc
Arsenic, dissolved	M200.8 ICP-MS	0.0010	B		mg/L	0.0002	0.001	02/14/13 23:24	msh
Arsenic, total	M200.8 ICP-MS	0.0013			mg/L	0.0002	0.001	02/13/13 22:16	pmc
Barium, dissolved	M200.7 ICP	0.046			mg/L	0.003	0.02	02/11/13 18:27	jjc
Barium, total	M200.7 ICP	0.052			mg/L	0.003	0.02	02/13/13 11:38	jjc
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:24	msh
Beryllium, total	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 16:11	scp
Boron, dissolved	M200.7 ICP	0.01	B		mg/L	0.01	0.05	02/11/13 15:41	jjc
Boron, total	M200.7 ICP		U		mg/L	0.01	0.05	02/13/13 11:38	jjc
Cadmium, dissolved	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	02/14/13 23:24	msh
Cadmium, total	M200.8 ICP-MS	0.0004	B		mg/L	0.0001	0.0005	02/13/13 22:16	pmc
Calcium, dissolved	M200.7 ICP	37.6			mg/L	0.2	1	02/11/13 15:41	jjc
Calcium, total	M200.7 ICP	40.4			mg/L	0.2	1	02/13/13 11:38	jjc
Chromium, dissolved	M200.8 ICP-MS		U	*	mg/L	0.0005	0.002	02/14/13 23:24	msh
Chromium, total	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/13/13 22:16	pmc
Copper, dissolved	M200.8 ICP-MS		U	*	mg/L	0.0005	0.003	02/14/13 23:24	msh
Copper, total	M200.8 ICP-MS	0.0017	B		mg/L	0.0005	0.003	02/13/13 22:16	pmc
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	02/11/13 15:41	jjc
Iron, total	M200.7 ICP	0.11			mg/L	0.02	0.05	02/13/13 11:38	jjc
Lead, dissolved	M200.8 ICP-MS	0.0021			mg/L	0.0001	0.0005	02/14/13 23:24	msh
Lead, total	M200.8 ICP-MS	0.0148			mg/L	0.0001	0.0005	02/13/13 22:16	pmc
Magnesium, dissolved	M200.7 ICP	2.7			mg/L	0.2	1	02/11/13 15:41	jjc
Magnesium, total	M200.7 ICP	2.9			mg/L	0.2	1	02/13/13 11:38	jjc
Manganese, dissolved	M200.7 ICP	0.088			mg/L	0.005	0.03	02/11/13 18:27	jjc
Manganese, total	M200.7 ICP	0.151			mg/L	0.005	0.03	02/13/13 11:38	jjc
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/12/13 14:51	mfm
Mercury, total	M245.1 CVAA		U		mg/L	0.0002	0.001	02/14/13 16:23	mfm
Molybdenum, dissolved	M200.8 ICP-MS	0.0018	B		mg/L	0.0005	0.003	02/14/13 23:24	msh
Molybdenum, total	M200.8 ICP-MS	0.0021	B		mg/L	0.0005	0.003	02/13/13 22:16	pmc
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:41	jjc
Nickel, total	M200.7 ICP		U		mg/L	0.01	0.05	02/13/13 11:38	jjc
Potassium, dissolved	M200.7 ICP	0.7	B		mg/L	0.3	2	02/11/13 15:41	jjc
Potassium, total	M200.7 ICP	0.6	B		mg/L	0.3	2	02/13/13 11:38	jjc
Selenium, dissolved	M200.8 ICP-MS	0.0004			mg/L	0.0001	0.0003	02/16/13 4:01	pmc
Selenium, total	M200.8 ICP-MS	0.0004			mg/L	0.0001	0.0003	02/13/13 22:16	pmc
Silica, dissolved	M200.7 ICP	5.5			mg/L	0.4	2	02/11/13 18:27	jjc
Silica, total	M200.7 ICP	5.8		*	mg/L	0.4	2	02/13/13 11:38	jjc
Silver, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:24	msh
Silver, total	M200.8 ICP-MS	0.00016	B		mg/L	0.00005	0.0003	02/13/13 22:16	pmc
Sodium, dissolved	M200.7 ICP	3.8			mg/L	0.3	2	02/11/13 15:41	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine
Sample ID: SW-4 SNEFFELS CREEK BELOW REVENUE S

ACZ Sample ID: **L10541-03**

Date Sampled: 02/06/13 12:45

Date Received: 02/07/13

Sample Matrix: Surface Water

Sodium, total	M200.7 ICP	3.8		mg/L	0.3	2	02/13/13 11:38	jjc
Thallium, dissolved	M200.8 ICP-MS		U	mg/L	0.0001	0.0005	02/14/13 23:24	msh
Thallium, total	M200.8 ICP-MS		U	mg/L	0.0001	0.0005	02/13/13 22:16	pmc
Uranium, dissolved	M200.8 ICP-MS	0.0001	B	mg/L	0.0001	0.0005	02/14/13 23:24	msh
Uranium, total	M200.8 ICP-MS	0.0001	B	mg/L	0.0001	0.0005	02/13/13 22:16	pmc
Vanadium, dissolved	M200.7 ICP	0.006	B	mg/L	0.005	0.03	02/11/13 15:41	jjc
Vanadium, total	M200.7 ICP		U	mg/L	0.005	0.03	02/13/13 11:38	jjc
Zinc, dissolved	M200.7 ICP	0.15		mg/L	0.01	0.05	02/11/13 15:41	jjc
Zinc, total	M200.7 ICP	0.19		mg/L	0.01	0.05	02/13/13 11:38	jjc

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		39			mg/L	2	20	02/13/13 0:00	abm
Carbonate as CaCO3			U		mg/L	2	20	02/13/13 0:00	abm
Hydroxide as CaCO3			U		mg/L	2	20	02/13/13 0:00	abm
Total Alkalinity		39			mg/L	2	20	02/13/13 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-2.1			%			02/19/13 0:00	calc
Sum of Anions		2.4			meq/L	0.1	0.5	02/19/13 0:00	calc
Sum of Cations		2.3			meq/L	0.1	0.5	02/19/13 0:00	calc
Chloride	SM4500Cl-E		U	*	mg/L	1	5	02/13/13 15:28	lhb
Conductivity @25C	SM2510B	254			umhos/cm	1	10	02/13/13 18:28	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/09/13 0:22	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/08/13 23:30	pjb
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/11/13 16:36	abm
Hardness as CaCO3	SM2340B - Calculation	105			mg/L	1	7	02/19/13 0:00	calc
Lab Filtration (0.45um) & Acidification	M200.7/200.8							02/08/13 12:10	las
Lab Filtration (glass fiber filter)	SOPWC050							02/07/13 14:39	ljr
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.16		*	mg/L	0.02	0.1	02/13/13 23:26	pjb
pH (lab)	SM4500H+ B								
pH		8.0	H		units	0.1	0.1	02/13/13 0:00	abm
pH measured at		22.0			C	0.1	0.1	02/13/13 0:00	abm
Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	0.01	B	*	mg/L	0.01	0.05	02/07/13 21:56	pjb
Residue, Filterable (TDS) @180C	SM2540C	170			mg/L	10	20	02/07/13 16:30	ljr
Residue, Non-Filterable (TSS) @105C	SM2540D		U		mg/L	5	20	02/08/13 14:22	abm
Sulfate	D516-02 - Turbidimetric	78		*	mg/L	5	30	02/18/13 15:51	lhb
TDS (calculated)	Calculation	152			mg/L	10	50	02/19/13 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.12						02/19/13 0:00	calc


Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

<http://www.acz.com/public/extquallist.pdf>

Star Mine Operations LLC

ACZ Project ID: **L10541**

Alkalinity as CaCO3

SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338885													
WG338885PBW1	PBW	02/13/13 13:17				11.5	mg/L		-20	20			
WG338885LCSW2	LCSW	02/13/13 13:30	WC130129-	820		776	mg/L	94.6	90	110			
WG338885LCSW5	LCSW	02/13/13 17:02	WC130129-	820		783	mg/L	95.5	90	110			
WG338885PBW2	PBW	02/13/13 17:10				U	mg/L		-20	20			
L10541-03DUP	DUP	02/13/13 18:35			39	39.4	mg/L				1	20	
WG338885LCSW8	LCSW	02/13/13 21:04	WC130129-	820		798.4	mg/L	97.4	90	110			
WG338885PBW3	PBW	02/13/13 21:12				3.8	mg/L		-20	20			
WG338885LCSW11	LCSW	02/14/13 0:26	WC130129-	820		794.5	mg/L	96.9	90	110			
WG338885PBW4	PBW	02/14/13 0:34				U	mg/L		-20	20			
WG338885LCSW14	LCSW	02/14/13 3:55	WC130129-	820		792.2	mg/L	96.6	90	110			

Aluminum, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338789													
WG338789ICV	ICV	02/12/13 9:10	II130114-3	2		2.06	mg/L	103	95	105			
WG338789ICB	ICB	02/12/13 9:16				U	mg/L		-0.09	0.09			
WG338789LFB	LFB	02/12/13 9:29	II130131-2	1		1.031	mg/L	103.1	85	115			
L10541-02AS	AS	02/12/13 9:41	II130131-2	1	U	1.056	mg/L	105.6	85	115			
L10541-02ASD	ASD	02/12/13 9:44	II130131-2	1	U	1.054	mg/L	105.4	85	115	0.19	20	

Aluminum, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	2		2.069	mg/L	103.5	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.09	0.09			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.066	0.066			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	1		1.012	mg/L	101.2	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	1	.04	1.055	mg/L	101.5	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	1	.04	1.03	mg/L	99	70	130	2.4	20	

Antimony, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.02		.02102	mg/L	105.1	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0012	0.0012			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.01		.01003	mg/L	100.3	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.01	U	.00895	mg/L	89.5	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.01	U	.00901	mg/L	90.1	70	130	0.67	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.01	.0015	.01049	mg/L	89.9	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.01	.0015	.01073	mg/L	92.3	70	130	2.26	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Antimony, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.02		.02017	mg/L	100.9	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0012	0.0012			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.00088	0.00088			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.01		.0104	mg/L	104	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.02	U	.00545	mg/L	27.3	70	130			M2
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.02	U	.00529	mg/L	26.5	70	130	2.98	20	M2
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.01	U	.01093	mg/L	109.3	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.01	U	.01108	mg/L	110.8	70	130	1.36	20	

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05288	mg/L	105.8	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0006	0.0006			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.04922	mg/L	98.3	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.05005	.0062	.0627	mg/L	112.9	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.05005	.0062	.06605	mg/L	119.6	70	130	5.2	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	.001	.05752	mg/L	112.9	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	.001	.05909	mg/L	116.1	70	130	2.69	20	

Arsenic, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.05		.0501	mg/L	100.2	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0006	0.0006			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.00044	0.00044			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.05005		.05192	mg/L	103.7	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1001	.0089	.10594	mg/L	96.9	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1001	.0089	.10518	mg/L	96.2	70	130	0.72	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.05005	.0005	.05027	mg/L	99.4	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.05005	.0005	.05024	mg/L	99.4	70	130	0.06	20	

Barium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338781													
WG338781ICV	ICV	02/11/13 17:12	II130114-3	2		1.996	mg/L	99.8	95	105			
WG338781ICB	ICB	02/11/13 17:18				U	mg/L		-0.009	0.009			
WG338781LFB	LFB	02/11/13 17:31	II130131-2	.5		.5013	mg/L	100.3	85	115			
L10533-01AS	AS	02/11/13 17:50	II130131-2	.5	.043	.5506	mg/L	101.5	85	115			
L10533-01ASD	ASD	02/11/13 17:53	II130131-2	.5	.043	.5475	mg/L	100.9	85	115	0.56	20	
L10541-02AS	AS	02/11/13 18:21	II130131-2	.5	.032	.5391	mg/L	101.4	85	115			
L10541-02ASD	ASD	02/11/13 18:24	II130131-2	.5	.032	.5343	mg/L	100.5	85	115	0.89	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Barium, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	2		1.9922	mg/L	99.6	95	105			
WG338859ICB	ICB	02/13/13 11:07				.0036	mg/L		-0.009	0.009			
WG338808LRB	LRB	02/13/13 11:20				.0031	mg/L		-0.0066	0.0066			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	.5		.4882	mg/L	97.6	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	.5	.062	.5547	mg/L	98.5	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	.5	.062	.5477	mg/L	97.1	70	130	1.27	20	

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.0464	mg/L	92.8	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.00015	0.00015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.0501		.04629	mg/L	92.4	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.0501	U	.05208	mg/L	104	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.0501	U	.05246	mg/L	104.7	70	130	0.73	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.0501	U	.05632	mg/L	112.4	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.0501	U	.05651	mg/L	112.8	70	130	0.34	20	

Beryllium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339001													
WG339001ICV	ICV	02/14/13 15:38	MS130102-2	.05		.04609	mg/L	92.2	90	110			
WG339001ICB	ICB	02/14/13 15:42				U	mg/L		-0.00015	0.00015			
WG338825LRB	LRB	02/14/13 15:45				U	mg/L		-0.00011	0.00011			
WG338825LFB	LFB	02/14/13 15:48	MS130108-1	.0501		.04804	mg/L	95.9	85	115			
L10509-06LFM	LFM	02/14/13 15:58	MS2XW	.1001	.0029	.0967	mg/L	93.7	70	130			
L10509-06LFMD	LFMD	02/14/13 16:01	MS2XW	.1001	.0029	.0958	mg/L	92.8	70	130	0.94	20	
L10578-01LFM	LFM	02/14/13 16:31	MS130108-1	.0501	U	.0469	mg/L	93.6	70	130			
L10578-01LFMD	LFMD	02/14/13 16:34	MS130108-1	.0501	U	.0477	mg/L	95.2	70	130	1.69	20	

Boron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		2.051	mg/L	102.6	95	105			
WG338724ICB	ICB	02/11/13 14:34				.013	mg/L		-0.03	0.03			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	.5005		.529	mg/L	105.7	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	.5005	.09	.629	mg/L	107.7	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	.5005	.09	.634	mg/L	108.7	85	115	0.79	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	.5005	.01	.553	mg/L	108.5	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	.5005	.01	.555	mg/L	108.9	85	115	0.36	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Boron, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	2		2.014	mg/L	100.7	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.03	0.03			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.022	0.022			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	.5005		.499	mg/L	99.7	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	.5005	.01	.51	mg/L	99.9	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	.5005	.01	.497	mg/L	97.3	70	130	2.58	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.0513	mg/L	102.6	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.0501		.04892	mg/L	97.6	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.0501	.0001	.04985	mg/L	99.3	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.0501	.0001	.0501	mg/L	99.8	70	130	0.5	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.0501	.0003	.05268	mg/L	104.6	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.0501	.0003	.05336	mg/L	105.9	70	130	1.28	20	

Cadmium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.05		.05132	mg/L	102.6	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0003	0.0003			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.00022	0.00022			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.0501		.05059	mg/L	101	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1001	.0004	.10248	mg/L	102	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1001	.0004	.10252	mg/L	102	70	130	0.04	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.0501	U	.05131	mg/L	102.4	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.0501	U	.05191	mg/L	103.6	70	130	1.16	20	

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	100		98.13	mg/L	98.1	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.6	0.6			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	67.97554		69.26	mg/L	101.9	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	67.97554	89.8	157.2	mg/L	99.2	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	67.97554	89.8	159.55	mg/L	102.6	85	115	1.48	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	67.97554	38.3	109.41	mg/L	104.6	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	67.97554	38.3	110.7	mg/L	106.5	85	115	1.17	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Calcium, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	100		99.17	mg/L	99.2	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.6	0.6			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.44	0.44			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	67.97554		68.1	mg/L	100.2	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	67.97554	36.4	105.3	mg/L	101.4	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	67.97554	36.4	103.7	mg/L	99	70	130	1.53	20	

Chloride

SM4500CI-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338906													
WG338906ICB	ICB	02/13/13 10:53				U	mg/L		-3	3			
WG338906ICV	ICV	02/13/13 10:53	WI130131-1	54.945		57.9	mg/L	105.4	90	110			
WG338906LFB1	LFB	02/13/13 15:24	WI130201-8	30		31.3	mg/L	104.3	90	110			
L10513-01AS	AS	02/13/13 15:26	WI130201-8	30	U	33.9	mg/L	113	90	110			M1
L10513-02DUP	DUP	02/13/13 15:26			U	U	mg/L				0	20	RA
WG338906LFB2	LFB	02/13/13 15:28	WI130201-8	30		31.6	mg/L	105.3	90	110			

Chromium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.04932	mg/L	98.6	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0015	0.0015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.04906	mg/L	98	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.05005	U	.04687	mg/L	93.6	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.05005	U	.04683	mg/L	93.6	70	130	0.09	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	U	.04775	mg/L	95.4	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	U	.04846	mg/L	96.8	70	130	1.48	20	

Chromium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.05		.04977	mg/L	99.5	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0015	0.0015			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.0011	0.0011			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.05005		.05188	mg/L	103.7	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1001	.037	.1385	mg/L	101.4	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1001	.037	.1397	mg/L	102.6	70	130	0.86	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.05005	.0076	.05688	mg/L	98.5	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.05005	.0076	.0578	mg/L	100.3	70	130	1.6	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Conductivity @25C

SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338885													
WG338885LCSW1	LCSW	02/13/13 13:18	PCN41037	1408.8		1429.2	µmhos/crr	101.4	90	110			
WG338885LCSW4	LCSW	02/13/13 16:51	PCN41037	1408.8		1414	µmhos/crr	100.4	90	110			
L10541-03DUP	DUP	02/13/13 18:35			254	254	µmhos/crr				0	20	
WG338885LCSW7	LCSW	02/13/13 20:52	PCN41037	1408.8		1401.9	µmhos/crr	99.5	90	110			
WG338885LCSW10	LCSW	02/14/13 0:14	PCN41037	1408.8		1389.7	µmhos/crr	98.6	90	110			
WG338885LCSW13	LCSW	02/14/13 3:44	PCN41037	1408.8		1374.5	µmhos/crr	97.6	90	110			

Copper, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05064	mg/L	101.3	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0015	0.0015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.04915	mg/L	98.2	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.05005	U	.04452	mg/L	89	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.05005	U	.04484	mg/L	89.6	70	130	0.72	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	U	.04814	mg/L	96.2	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	U	.04857	mg/L	97	70	130	0.89	20	

Copper, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.05		.05103	mg/L	102.1	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0015	0.0015			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.0011	0.0011			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.05005		.05258	mg/L	105.1	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1001	.038	.1366	mg/L	98.5	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1001	.038	.1376	mg/L	99.5	70	130	0.73	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.05005	.0011	.04816	mg/L	94	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.05005	.0011	.04897	mg/L	95.6	70	130	1.67	20	

Cyanide, total

M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338708													
WG338708ICV	ICV	02/08/13 21:54	WI130201-7	.3		.3043	mg/L	101.4	90	110			
WG338708ICB	ICB	02/08/13 21:55				U	mg/L		-0.009	0.009			
WG338714													
WG338640LRB	LRB	02/08/13 23:57				U	mg/L		-0.009	0.009			
WG338640LFB	LFB	02/08/13 23:58	WI130201-2	.2		.2146	mg/L	107.3	90	110			
L10497-03DUP	DUP	02/09/13 0:12			U	U	mg/L				0	20	RA
L10497-04LFM	LFM	02/09/13 0:14	WI130201-2	.2	U	.2044	mg/L	102.2	90	110			

Star Mine Operations LLC

ACZ Project ID: **L10541**

Cyanide, WAD

SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338708													
WG338708ICV	ICV	02/08/13 21:54	WI130201-7	.3		.3043	mg/L	101.4	90	110			
WG338708ICB	ICB	02/08/13 21:55				U	mg/L		-0.009	0.009			
WG338712													
WG338685LRB	LRB	02/08/13 23:04				U	mg/L		-0.009	0.009			
WG338685LFB	LFB	02/08/13 23:05	WI130201-4	.2		.2067	mg/L	103.4	90	110			
L10498-01DUP	DUP	02/08/13 23:19			U	U	mg/L				0	20	RA
L10499-01LFM	LFM	02/08/13 23:21	WI130201-4	.2	U	.1947	mg/L	97.4	90	110			

Fluoride

SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338746													
WG338746ICV	ICV	02/11/13 11:51	WC130208-	2.002		1.94	mg/L	96.9	95	105			
WG338746ICB	ICB	02/11/13 11:58				U	mg/L		-0.3	0.3			
WG338746LFB1	LFB	02/11/13 12:07	WC121017-	5.005		5.02	mg/L	100.3	90	110			
WG338746LFB2	LFB	02/11/13 14:50	WC121017-	5.005		5.05	mg/L	100.9	90	110			
L10541-01AS	AS	02/11/13 16:22	WC121017-	5.005	.2	5.36	mg/L	103.1	90	110			
L10541-01DUP	DUP	02/11/13 16:27			.2	.22	mg/L				9.5	20	RA

Iron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		1.958	mg/L	97.9	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.06	0.06			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	1		1.058	mg/L	105.8	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	1	U	1.03	mg/L	103	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	1	U	1.035	mg/L	103.5	85	115	0.48	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	1	U	1.041	mg/L	104.1	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	1	U	1.051	mg/L	105.1	85	115	0.96	20	

Iron, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	2		2.02	mg/L	101	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.06	0.06			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.044	0.044			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	1		1.017	mg/L	101.7	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	1	U	1.043	mg/L	104.3	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	1	U	1.034	mg/L	103.4	70	130	0.87	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Lead, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05353	mg/L	107.1	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.0525	mg/L	104.9	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.05005	.0002	.05221	mg/L	103.9	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.05005	.0002	.05314	mg/L	105.8	70	130	1.77	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	.0021	.05369	mg/L	103.1	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	.0021	.0548	mg/L	105.3	70	130	2.05	20	

Lead, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.05		.05178	mg/L	103.6	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0003	0.0003			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.00022	0.00022			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.05005		.05058	mg/L	101.1	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1001	.031	.13478	mg/L	103.7	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1001	.031	.13322	mg/L	102.1	70	130	1.16	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.05005	.0002	.05239	mg/L	104.3	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.05005	.0002	.05264	mg/L	104.8	70	130	0.48	20	

Magnesium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	100		100.88	mg/L	100.9	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.6	0.6			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	50.00131		50.64	mg/L	101.3	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	50.00131	64.4	115.51	mg/L	102.2	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	50.00131	64.4	117.05	mg/L	105.3	85	115	1.32	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	50.00131	2.2	54.79	mg/L	105.2	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	50.00131	2.2	55.05	mg/L	105.7	85	115	0.47	20	

Magnesium, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	100		101.93	mg/L	101.9	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.6	0.6			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.44	0.44			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	50.00131		50.02	mg/L	100	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	50.00131	3.3	53.45	mg/L	100.3	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	50.00131	3.3	52.6	mg/L	98.6	70	130	1.6	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Manganese, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338781													
WG338781ICV	ICV	02/11/13 17:12	II130114-3	2		1.9212	mg/L	96.1	95	105			
WG338781ICB	ICB	02/11/13 17:18				U	mg/L		-0.015	0.015			
WG338781LFB	LFB	02/11/13 17:31	II130131-2	.5		.4935	mg/L	98.7	85	115			
L10533-01AS	AS	02/11/13 17:50	II130131-2	.5	U	.497	mg/L	99.4	85	115			
L10533-01ASD	ASD	02/11/13 17:53	II130131-2	.5	U	.4939	mg/L	98.8	85	115	0.63	20	
L10541-02AS	AS	02/11/13 18:21	II130131-2	.5	U	.5041	mg/L	100.8	85	115			
L10541-02ASD	ASD	02/11/13 18:24	II130131-2	.5	U	.4998	mg/L	100	85	115	0.86	20	

Manganese, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	2		1.9498	mg/L	97.5	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.015	0.015			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.011	0.011			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	.5		.4953	mg/L	99.1	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	.5	.007	.505	mg/L	99.6	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	.5	.007	.4973	mg/L	98.1	70	130	1.54	20	

Mercury, dissolved

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338793													
WG338793ICV	ICV	02/12/13 14:30	II130201-1	.005025		.005	mg/L	99.5	95	105			
WG338793ICB	ICB	02/12/13 14:32				U	mg/L		-0.0002	0.0002			
WG338793LRB	LRB	02/12/13 14:34				U	mg/L		-0.00044	0.00044			
WG338793LFB	LFB	02/12/13 14:37	II130204-3	.002002		.00191	mg/L	95.4	85	115			
L10541-02LFM	LFM	02/12/13 14:47	II130204-3	.002002	U	.00205	mg/L	102.4	85	115			
L10541-02LFMD	LFMD	02/12/13 14:49	II130204-3	.002002	U	.00198	mg/L	98.9	85	115	3.47	20	

Mercury, total

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338871													
WG338871ICV	ICV	02/14/13 13:18	II130201-1	.005025		.00485	mg/L	96.5	95	105			
WG338871ICB	ICB	02/14/13 13:21				U	mg/L		-0.0002	0.0002			
WG338927													
WG338927LRB	LRB	02/14/13 16:14				U	mg/L		-0.00044	0.00044			
WG338927LFB	LFB	02/14/13 16:16	II130204-3	.002002		.00179	mg/L	89.4	85	115			
L10541-03LFM	LFM	02/14/13 16:25	II130204-3	.002002	U	.00186	mg/L	92.9	85	115			
L10541-03LFMD	LFMD	02/14/13 16:28	II130204-3	.002002	U	.00183	mg/L	91.4	85	115	1.63	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Molybdenum, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.02004		.0202	mg/L	100.8	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0015	0.0015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05		.0487	mg/L	97.4	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.05	U	.05056	mg/L	101.1	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.05	U	.05084	mg/L	101.7	70	130	0.55	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05	.0018	.05055	mg/L	97.5	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05	.0018	.05143	mg/L	99.3	70	130	1.73	20	

Molybdenum, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.02004		.02039	mg/L	101.7	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0015	0.0015			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.0011	0.0011			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.05		.05001	mg/L	100	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1002	.002	.0863	mg/L	84.1	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1002	.002	.0844	mg/L	82.2	70	130	2.23	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.05	.0065	.05554	mg/L	98.1	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.05	.0065	.05836	mg/L	103.7	70	130	4.95	20	

Nickel, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		1.933	mg/L	96.7	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.03	0.03			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	.5		.498	mg/L	99.6	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	.5	U	.494	mg/L	98.8	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	.5	U	.487	mg/L	97.4	85	115	1.43	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	.5	U	.485	mg/L	97	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	.5	U	.505	mg/L	101	85	115	4.04	20	

Nickel, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	2		2	mg/L	100	95	105			
WG338859ICB	ICB	02/13/13 11:07				.016	mg/L		-0.03	0.03			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.022	0.022			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	.5		.498	mg/L	99.6	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	.5	U	.497	mg/L	99.4	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	.5	U	.501	mg/L	100.2	70	130	0.8	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338930													
WG338930ICV	ICV	02/13/13 21:07	WI130110-1	2.416		2.268	mg/L	93.9	90	110			
WG338930ICB	ICB	02/13/13 21:08				U	mg/L		-0.06	0.06			
WG338933													
WG338933LFB	LFB	02/13/13 22:56	WI120814-9	2		2.009	mg/L	100.5	90	110			
L10534-01AS	AS	02/13/13 23:15	WI120814-9	2	U	1.903	mg/L	95.2	90	110			
L10535-01DUP	DUP	02/13/13 23:18			U	U	mg/L				0	20	RA

pH (lab)

SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338885													
WG338885LCSW3	LCSW	02/13/13 13:33	PCN40853	6		6.02	units	100.3	98	102			
WG338885LCSW6	LCSW	02/13/13 17:05	PCN40853	6		6.02	units	100.3	98	102			
L10541-03DUP	DUP	02/13/13 18:35			8	8.03	units				0.4	20	
WG338885LCSW9	LCSW	02/13/13 21:07	PCN40853	6		6.01	units	100.2	98	102			
WG338885LCSW12	LCSW	02/14/13 0:29	PCN40853	6		6.02	units	100.3	98	102			
WG338885LCSW15	LCSW	02/14/13 3:59	PCN40853	6		6.02	units	100.3	98	102			

Phosphorus, ortho dissolved

M365.1 - Automated Ascorbic Acid

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338646													
WG338646ICV	ICV	02/07/13 21:46	WI120417-2	.65228		.63	mg/L	96.6	90	110			
WG338646ICB	ICB	02/07/13 21:47				U	mg/L		-0.03	0.03			
WG338646LFB	LFB	02/07/13 21:50	WI130128-2	.5		.497	mg/L	99.4	90	110			
L10541-01AS	AS	02/07/13 21:52	WI130128-2	.5	.02	.499	mg/L	95.8	90	110			
L10541-02DUP	DUP	02/07/13 21:54			.01	.011	mg/L				9.5	20	RA

Potassium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	20		20	mg/L	100	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.9	0.9			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	99.90868		101.55	mg/L	101.6	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	99.90868	3.3	107.34	mg/L	104.1	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	99.90868	3.3	108.13	mg/L	104.9	85	115	0.73	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	99.90868	.6	104.45	mg/L	103.9	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	99.90868	.6	106.1	mg/L	105.6	85	115	1.57	20	

Potassium, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	20		20.15	mg/L	100.8	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.9	0.9			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.66	0.66			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	99.90868		98.56	mg/L	98.7	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	99.90868	.5	100.1	mg/L	99.7	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	99.90868	.5	98.58	mg/L	98.2	70	130	1.53	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338632													
WG338632PBW	PBW	02/07/13 16:21				10	mg/L		-20	20			
WG338632LCSW	LCSW	02/07/13 16:21	PCN41149	260		262	mg/L	100.8	80	120			
L10541-03DUP	DUP	02/07/13 16:31			170	172	mg/L				1.2	20	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338688													
WG338688PBW	PBW	02/08/13 14:00				U	mg/L		-6	6			
WG338688LCSW	LCSW	02/08/13 14:01	PCN41149	160		152	mg/L	95	80	120			
L10571-02DUP	DUP	02/08/13 14:29			580	520	mg/L				10.9	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339075													
WG339075ICV	ICV	02/16/13 3:33	MS130102-2	.05		.0487	mg/L	97.4	90	110			
WG339075ICB	ICB	02/16/13 3:36				U	mg/L		-0.0003	0.0003			
WG339075LFB	LFB	02/16/13 3:39	MS130108-1	.05005		.05053	mg/L	101	85	115			
L10509-03AS	AS	02/16/13 3:45	MS130108-1	.05005	.0018	.05696	mg/L	110.2	70	130			
L10509-03ASD	ASD	02/16/13 3:48	MS130108-1	.05005	.0018	.05618	mg/L	108.7	70	130	1.38	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.05		.04903	mg/L	98.1	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0003	0.0003			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.00022	0.00022			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.05005		.04978	mg/L	99.5	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1001	.0018	.1034	mg/L	101.5	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1001	.0018	.1055	mg/L	103.6	70	130	2.01	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.05005	.0013	.05171	mg/L	100.7	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.05005	.0013	.05242	mg/L	102.1	70	130	1.36	20	

Silica, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338781													
WG338781ICV	ICV	02/11/13 17:12	II130114-3	42.8		43.23	mg/L	101	95	105			
WG338781ICB	ICB	02/11/13 17:18				U	mg/L		-1.2	1.2			
WG338781LFB	LFB	02/11/13 17:31	II130131-2	21.428		22.45	mg/L	104.8	85	115			
L10533-01AS	AS	02/11/13 17:50	II130131-2	21.428	16.1	38.84	mg/L	106.1	85	115			
L10533-01ASD	ASD	02/11/13 17:53	II130131-2	21.428	16.1	38.46	mg/L	104.3	85	115	0.98	20	
L10541-02AS	AS	02/11/13 18:21	II130131-2	21.428	5.8	28.7	mg/L	106.9	85	115			
L10541-02ASD	ASD	02/11/13 18:24	II130131-2	21.428	5.8	28.27	mg/L	104.9	85	115	1.51	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Silica, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	42.8		44.42	mg/L	103.8	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-1.2	1.2			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.88	0.88			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	21.428		22.04	mg/L	102.9	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	21.428	5.1	27.37	mg/L	103.9	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	21.428	5.1	27.18	mg/L	103	70	130	0.7	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.02006		.02071	mg/L	103.2	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.00015	0.00015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.01001		.009618	mg/L	96.1	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.01001	U	.008723	mg/L	87.1	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.01001	U	.009122	mg/L	91.1	70	130	4.47	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.01001	U	.009495	mg/L	94.9	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.01001	U	.009458	mg/L	94.5	70	130	0.39	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.02006		.0207	mg/L	103.2	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.00015	0.00015			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.00011	0.00011			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.01001		.009905	mg/L	99	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.02002	.0002	.01908	mg/L	94.3	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.02002	.0002	.01899	mg/L	93.9	70	130	0.47	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.01001	U	.009366	mg/L	93.6	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.01001	U	.00943	mg/L	94.2	70	130	0.68	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	100		100.43	mg/L	100.4	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.9	0.9			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	100.0416		101.98	mg/L	101.9	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	100.0416	37.6	139.03	mg/L	101.4	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	100.0416	37.6	139.83	mg/L	102.2	85	115	0.57	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	100.0416	4.1	107.61	mg/L	103.5	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	100.0416	4.1	109.2	mg/L	105.1	85	115	1.47	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Sodium, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	100		101.5	mg/L	101.5	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.9	0.9			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.66	0.66			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	100.0416		99.18	mg/L	99.1	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	100.0416	3.1	102.9	mg/L	99.8	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	100.0416	3.1	101.4	mg/L	98.3	70	130	1.47	20	

Sulfate

D516-02 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339137													
WG339137ICB	ICB	02/18/13 14:49				U	mg/L		-3	3			
WG339137ICV	ICV	02/18/13 14:49	WI130214-2	20		20	mg/L	100	90	110			
WG339137LFB	LFB	02/18/13 15:41	WI121025-3	10		10.4	mg/L	104	90	110			
L10539-04DUP	DUP	02/18/13 15:41			U	U	mg/L				0	20	RA
L10541-02DUP	DUP	02/18/13 15:51			82	82.5	mg/L				0.6	20	
L10541-03AS	AS	02/18/13 15:51	SO4TURB5	10	78	86.9	mg/L	89	90	110			M3
L10539-05AS	AS	02/18/13 15:57	SO4TURB20	10	350	361	mg/L	110	90	110			

Thallium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05439	mg/L	108.8	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.05278	mg/L	105.5	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.05005	U	.05368	mg/L	107.3	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.05005	U	.05445	mg/L	108.8	70	130	1.42	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	U	.05308	mg/L	106.1	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	U	.05327	mg/L	106.4	70	130	0.36	20	

Thallium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.05		.05265	mg/L	105.3	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0003	0.0003			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.00022	0.00022			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.05005		.05085	mg/L	101.6	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1002	.0006	.1049	mg/L	104.1	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1002	.0006	.10456	mg/L	103.8	70	130	0.32	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.05005	U	.05294	mg/L	105.8	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.05005	U	.05213	mg/L	104.2	70	130	1.54	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05263	mg/L	105.3	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05		.05202	mg/L	104	85	115			
L10539-03AS	AS	02/14/13 22:48	MS130108-1	.05	.0003	.05327	mg/L	105.9	70	130			
L10539-03ASD	ASD	02/14/13 22:51	MS130108-1	.05	.0003	.05415	mg/L	107.7	70	130	1.64	20	
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05	.0001	.0517	mg/L	103.2	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05	.0001	.0528	mg/L	105.4	70	130	2.11	20	

Uranium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338929													
WG338929ICV	ICV	02/13/13 21:16	MS130102-2	.05		.05193	mg/L	103.9	90	110			
WG338929ICB	ICB	02/13/13 21:19				U	mg/L		-0.0003	0.0003			
WG338825LRB	LRB	02/13/13 21:22				U	mg/L		-0.00022	0.00022			
WG338825LFB	LFB	02/13/13 21:25	MS130108-1	.05		.0507	mg/L	101.4	85	115			
L10509-06LFM	LFM	02/13/13 22:00	MS2XW	.1	.0075	.11944	mg/L	111.9	70	130			
L10509-06LFMD	LFMD	02/13/13 22:03	MS2XW	.1	.0075	.11826	mg/L	110.8	70	130	0.99	20	
L10578-01LFM	LFM	02/13/13 22:47	MS130108-1	.05	.0023	.05637	mg/L	108.1	70	130			
L10578-01LFMD	LFMD	02/13/13 22:50	MS130108-1	.05	.0023	.05633	mg/L	108.1	70	130	0.07	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		2.0767	mg/L	103.8	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.015	0.015			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	.5		.5289	mg/L	105.8	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	.5	.008	.5372	mg/L	105.8	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	.5	.008	.5401	mg/L	106.4	85	115	0.54	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	.5	.006	.5371	mg/L	106.2	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	.5	.006	.5399	mg/L	106.8	85	115	0.52	20	

Vanadium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	2		2.005	mg/L	100.3	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.015	0.015			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.011	0.011			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	.5		.4979	mg/L	99.6	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	.5	U	.4923	mg/L	98.5	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	.5	U	.4842	mg/L	96.8	70	130	1.66	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

Zinc, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		1.954	mg/L	97.7	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.03	0.03			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	.5		.518	mg/L	103.6	85	115			
L10533-01AS	AS	02/11/13 15:04	II130131-2	.5	U	.533	mg/L	106.6	85	115			
L10533-01ASD	ASD	02/11/13 15:07	II130131-2	.5	U	.531	mg/L	106.2	85	115	0.38	20	
L10541-02AS	AS	02/11/13 15:35	II130131-2	.5	.17	.682	mg/L	102.4	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	.5	.17	.696	mg/L	105.2	85	115	2.03	20	

Zinc, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338859													
WG338859ICV	ICV	02/13/13 11:01	II130114-4	2		1.957	mg/L	97.9	95	105			
WG338859ICB	ICB	02/13/13 11:07				U	mg/L		-0.03	0.03			
WG338808LRB	LRB	02/13/13 11:20				U	mg/L		-0.022	0.022			
WG338808LFB	LFB	02/13/13 11:23	II130131-2	.5		.502	mg/L	100.4	85	115			
L10541-01LFM	LFM	02/13/13 11:29	II130131-2	.5	.08	.571	mg/L	98.2	70	130			
L10541-01LFMD	LFMD	02/13/13 11:32	II130131-2	.5	.08	.558	mg/L	95.6	70	130	2.3	20	

Star Mine Operations LLC

ACZ Project ID: **L10541**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L10541-01	WG338929	Antimony, total	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG338859	Silica, total	M200.7 ICP	ZS	Digestion procedures have the potential to trigger silica polymerization and precipitation, leading to low biased results. Silica chemistry is complex and polymerization kinetics are unpredictable. Dissolved and/or acid soluble silica analyses may provide more accurate measurements.
	WG338906	Chloride	SM4500CI-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500CI-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338714	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338712	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338746	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338933	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338646	Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M365.1 - Automated Ascorbic Acid	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG339137	Sulfate	D516-02 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Star Mine Operations LLC

ACZ Project ID: **L10541**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L10541-02	WG339005	Chromium, dissolved	M200.8 ICP-MS	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Copper, dissolved	M200.8 ICP-MS	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG338859	Silica, total	M200.7 ICP	ZS	Digestion procedures have the potential to trigger silica polymerization and precipitation, leading to low biased results. Silica chemistry is complex and polymerization kinetics are unpredictable. Dissolved and/or acid soluble silica analyses may provide more accurate measurements.
	WG338906	Chloride	SM4500CI-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500CI-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338714	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338712	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338746	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338933	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338646	Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M365.1 - Automated Ascorbic Acid	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG339137	Sulfate	D516-02 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Star Mine Operations LLC

ACZ Project ID: **L10541**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L10541-03	WG339005	Chromium, dissolved	M200.8 ICP-MS	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
		Copper, dissolved	M200.8 ICP-MS	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG338859	Silica, total	M200.7 ICP	ZS	Digestion procedures have the potential to trigger silica polymerization and precipitation, leading to low biased results. Silica chemistry is complex and polymerization kinetics are unpredictable. Dissolved and/or acid soluble silica analyses may provide more accurate measurements.
	WG338906	Chloride	SM4500CI-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500CI-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338714	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338712	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338746	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338933	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338646	Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M365.1 - Automated Ascorbic Acid	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG339137	Sulfate	D516-02 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Star Mine Operations LLC

ACZ Project ID: **L10541**

No certification qualifiers associated with this analysis

Star Mine Operations LLC
Revenue/Starmine

ACZ Project ID: L10541
Date Received: 02/07/2013 10:20
Received By: ksj
Date Printed: 2/7/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?	☐	☐	☒
2) Is the Chain of Custody or other directive shipping papers present?	☒	☐	☐
3) Does this project require special handling procedures such as CLP protocol?	☐	☐	☒
4) Are any samples NRC licensable material?	☐	☐	☒
5) If samples are received past hold time, proceed with requested short hold time analyses?	☒	☐	☐
6) Is the Chain of Custody complete and accurate?	☒	☐	☐
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	☐	☒	☐

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	☒	☐	☐
9) Are all labels on containers and are they intact and legible?	☒	☐	☐
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	☒	☐	☐
11) For preserved bottle types, was the pH checked and within limits?	☒	☐	☐
12) Is there sufficient sample volume to perform all requested work?	☒	☐	☐
13) Is the custody seal intact on all containers?	☐	☐	☒
14) Are samples that require zero headspace acceptable?	☐	☐	☒
15) Are all sample containers appropriate for analytical requirements?	☒	☐	☐
16) Is there an Hg-1631 trip blank present?	☐	☐	☒
17) Is there a VOA trip blank present?	☐	☐	☒
18) Were all samples received within hold time?	☒	☐	☐

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
3778	2.8	20	Yes

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.



Laboratories, Inc.

L10541

CHARTERED BY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Name: JOHN R TRUJILLO
 Company: STAR MINE OPERATIONS
 E-mail: JRTRUJILLO@SLVRSTAR.COM

Address: PO BOX 835
219 10th AVE OURAY CO 81427
 Telephone: (970) 596-4082

Name: RORY WILLIAMS
 Company: SILVER STAR RESOURCES

E-mail: rory@SLVRSTAR.COM
 Telephone: (303) 534-6500

Name: RORY WILLIAMS
 Company: STAR MINE OPERATIONS
 E-mail: rory@SLVRSTAR.COM

Address: 1675 LARIMER ST, SUITE 820
DENVER, CO 80202
 Telephone: (303) 534-6500

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES ☒
 NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring?

Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: PITS Sampler's site Information State CO Zip code 81427 Time Zone MT

Quote #: SURFACE WATER
 Project/PO #: REVENUE / STAR MINE
 Reporting state for compliance testing:
 Check box if samples include NRC licensed material? ☐

of Containers

<u>SW-1</u>	<u>2/6/2013 NOON</u>																		
<u>ATLAS MINE DISCHARGE / FROZEN / NA</u>		<u>N/D</u>	<u>SAMPLING</u>																
<u>SW-2</u>	<u>2/6/13 12:15</u>																		
<u>SNEFFELS CREEK ABOVE ATLAS DRAINAGE</u>																			
<u>SW-3</u>	<u>2/6/13 12:30</u>																		
<u>SEEP FROM REVENUE LAKE</u>																			
<u>SW-4</u>	<u>2/6/13 12:45</u>																		
<u>SNEFFELS CREEK BELOW REVENUE SURFACE FACILITIES</u>																			

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

PLEASE SEND A COPY OF THIS REPORT TO MREG LEWICKI AT
greg@LEWICKI.biz

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

<u>Martin R. Potts</u>		<u>136</u>	<u>2/13/10:20</u>

February 19, 2013

Report to:

John Trujillo
Trujillo Development
219 10th Avenue
Ouray, CO 81427

Bill to:

Lauren Frommer
Star Mine Operations LLC
1675 Larimer Street Suite 820
Denver, CO 80202

cc: Greg Lewicki, Rory Williams

Project ID: Revenue/Starmine

ACZ Project ID: L10542

John Trujillo:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 07, 2013. This project has been assigned to ACZ's project number, L10542. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L10542. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 19, 2013. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed
and approved this report.



Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: M-1 PORTAL

ACZ Sample ID: **L10542-01**

Date Sampled: 02/06/13 09:30

Date Received: 02/07/13

Sample Matrix: Waste Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/08/13 12:00	lhb
Cyanide, WAD	SM4500-CN I- distillation							02/14/13 11:34	lhb
Total Hot Plate Digestion	M200.2 ICP							02/11/13 16:43	aeb

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 9:50	jjc
Aluminum, total	M200.7 ICP	0.08	B		mg/L	0.03	0.2	02/12/13 11:56	aeb
Antimony, dissolved	M200.8 ICP-MS	0.0024			mg/L	0.0004	0.002	02/14/13 23:34	msh
Arsenic, dissolved	M200.8 ICP-MS	0.0024			mg/L	0.0002	0.001	02/14/13 23:34	msh
Barium, dissolved	M200.7 ICP	0.029			mg/L	0.003	0.02	02/11/13 18:30	jjc
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:34	msh
Boron, dissolved	M200.7 ICP	0.02	B		mg/L	0.01	0.05	02/11/13 15:44	jjc
Cadmium, dissolved	M200.8 ICP-MS	0.0012			mg/L	0.0001	0.0005	02/14/13 23:34	msh
Calcium, dissolved	M200.7 ICP	65.3			mg/L	0.2	1	02/11/13 15:44	jjc
Chromium, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/14/13 23:34	msh
Copper, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.003	02/14/13 23:34	msh
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	02/11/13 15:44	jjc
Iron, total	M200.7 ICP	0.11			mg/L	0.02	0.05	02/12/13 11:56	aeb
Lead, dissolved	M200.8 ICP-MS	0.0009			mg/L	0.0001	0.0005	02/14/13 23:34	msh
Magnesium, dissolved	M200.7 ICP	2.8			mg/L	0.2	1	02/11/13 15:44	jjc
Manganese, dissolved	M200.7 ICP	2.040			mg/L	0.005	0.03	02/11/13 18:30	jjc
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/11/13 15:21	mfm
Molybdenum, dissolved	M200.8 ICP-MS	0.0052			mg/L	0.0005	0.003	02/14/13 23:34	msh
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:44	jjc
Potassium, dissolved	M200.7 ICP	0.6	B		mg/L	0.3	2	02/11/13 15:44	jjc
Selenium, dissolved	M200.8 ICP-MS	0.0004			mg/L	0.0001	0.0003	02/14/13 23:34	msh
Silica, dissolved	M200.7 ICP	7.9			mg/L	0.4	2	02/11/13 18:30	jjc
Silver, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:34	msh
Sodium, dissolved	M200.7 ICP	8.7			mg/L	0.3	2	02/11/13 15:44	jjc
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:34	msh
Uranium, dissolved	M200.8 ICP-MS	0.0004	B		mg/L	0.0001	0.0005	02/14/13 23:34	msh
Vanadium, dissolved	M200.7 ICP	0.007	B		mg/L	0.005	0.03	02/11/13 15:44	jjc
Zinc, dissolved	M200.7 ICP	0.47			mg/L	0.01	0.05	02/11/13 15:44	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: M-1 PORTAL

ACZ Sample ID: **L10542-01**

Date Sampled: 02/06/13 09:30

Date Received: 02/07/13

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		53			mg/L	2	20	02/13/13 0:00	abm
Carbonate as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Hydroxide as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Total Alkalinity		53			mg/L	2	20	02/13/13 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		2.5			%			02/19/13 9:36	calc
Sum of Anions		3.9			meq/L	0.1	0.5	02/19/13 9:36	calc
Sum of Cations		4.1			meq/L	0.1	0.5	02/19/13 9:36	calc
Chloride	SM4500Cl-E		U	*	mg/L	1	5	02/13/13 15:28	lhb
Conductivity @25C	SM2510B	395			umhos/cm	1	10	02/13/13 18:43	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/09/13 0:23	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 15:12	bsu
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/11/13 16:39	abm
Hardness as CaCO ₃	SM2340B - Calculation	175			mg/L	1	7	02/19/13 9:36	calc
Lab Filtration (0.45um) & Acidification	M200.7/200.8							02/08/13 12:15	las
Lab Filtration (glass fiber filter)	SOPWC050							02/07/13 14:40	ljr
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.15			mg/L	0.02	0.1	02/14/13 23:19	pjb
pH (lab)	SM4500H+ B								
pH		8.1	H		units	0.1	0.1	02/13/13 0:00	abm
pH measured at		23.0			C	0.1	0.1	02/13/13 0:00	abm
Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	0.01	B	*	mg/L	0.01	0.05	02/07/13 21:57	pjb
Residue, Filterable (TDS) @180C	SM2540C	280			mg/L	10	20	02/07/13 16:31	ljr
Residue, Non-Filterable (TSS) @105C	SM2540D		U		mg/L	5	20	02/08/13 14:23	abm
Sulfate	D516-02 - Turbidimetric	135		*	mg/L	5	30	02/18/13 15:53	lhb
TDS (calculated)	Calculation	255			mg/L	10	50	02/19/13 9:36	calc
TDS (ratio - measured/calculated)	Calculation	1.10						02/19/13 9:36	calc

Star Mine Operations LLC

Project ID: Revenue/Starmine
Sample ID: M-2 YELLOW ROSE DISCHARGE

ACZ Sample ID: **L10542-02**
Date Sampled: 02/06/13 09:45
Date Received: 02/07/13
Sample Matrix: Waste Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/12/13 15:08	mpb
Cyanide, WAD	SM4500-CN I- distillation							02/14/13 11:49	lhb
Total Hot Plate Digestion	M200.2 ICP							02/11/13 17:18	aeb

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 9:53	jjc
Aluminum, total	M200.7 ICP	0.19	B		mg/L	0.03	0.2	02/12/13 12:12	aeb
Antimony, dissolved	M200.8 ICP-MS		U		mg/L	0.0004	0.002	02/14/13 23:38	msh
Arsenic, dissolved	M200.8 ICP-MS	0.0020			mg/L	0.0002	0.001	02/14/13 23:38	msh
Barium, dissolved	M200.7 ICP	0.031			mg/L	0.003	0.02	02/11/13 18:33	jjc
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:38	msh
Boron, dissolved	M200.7 ICP	0.01	B		mg/L	0.01	0.05	02/11/13 15:47	jjc
Cadmium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:38	msh
Calcium, dissolved	M200.7 ICP	48.8			mg/L	0.2	1	02/11/13 15:47	jjc
Chromium, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/14/13 23:38	msh
Copper, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.003	02/14/13 23:38	msh
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	02/11/13 15:47	jjc
Iron, total	M200.7 ICP	0.27			mg/L	0.02	0.05	02/12/13 12:12	aeb
Lead, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:38	msh
Magnesium, dissolved	M200.7 ICP	2.3			mg/L	0.2	1	02/11/13 15:47	jjc
Manganese, dissolved	M200.7 ICP	0.033			mg/L	0.005	0.03	02/11/13 18:33	jjc
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/11/13 15:23	mfm
Molybdenum, dissolved	M200.8 ICP-MS	0.0048			mg/L	0.0005	0.003	02/14/13 23:38	msh
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:47	jjc
Potassium, dissolved	M200.7 ICP	0.6	B		mg/L	0.3	2	02/11/13 15:47	jjc
Selenium, dissolved	M200.8 ICP-MS	0.0006			mg/L	0.0001	0.0003	02/14/13 23:38	msh
Silica, dissolved	M200.7 ICP	8.2			mg/L	0.4	2	02/11/13 18:33	jjc
Silver, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:38	msh
Sodium, dissolved	M200.7 ICP	6.0			mg/L	0.3	2	02/11/13 15:47	jjc
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:38	msh
Uranium, dissolved	M200.8 ICP-MS	0.0002	B		mg/L	0.0001	0.0005	02/14/13 23:38	msh
Vanadium, dissolved	M200.7 ICP	0.005	B		mg/L	0.005	0.03	02/11/13 15:47	jjc
Zinc, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:47	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: M-2 YELLOW ROSE DISCHARGE

ACZ Sample ID: **L10542-02**

Date Sampled: 02/06/13 09:45

Date Received: 02/07/13

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		61			mg/L	2	20	02/13/13 0:00	abm
Carbonate as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Hydroxide as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Total Alkalinity		61			mg/L	2	20	02/13/13 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			02/19/13 9:37	calc
Sum of Anions		2.9			meq/L	0.1	0.5	02/19/13 9:37	calc
Sum of Cations		2.9			meq/L	0.1	0.5	02/19/13 9:37	calc
Chloride	SM4500Cl-E		U	*	mg/L	1	5	02/13/13 15:28	lhb
Conductivity @25C	SM2510B	294			umhos/cm	1	10	02/13/13 18:50	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 0:41	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 15:13	bsu
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/11/13 16:42	abm
Hardness as CaCO ₃	SM2340B - Calculation	131			mg/L	1	7	02/19/13 9:37	calc
Lab Filtration (0.45um) & Acidification	M200.7/200.8							02/08/13 12:20	las
Lab Filtration (glass fiber filter)	SOPWC050							02/07/13 14:42	ljr
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.20			mg/L	0.02	0.1	02/14/13 23:22	pjb
pH (lab)	SM4500H+ B								
pH		8.2	H		units	0.1	0.1	02/13/13 0:00	abm
pH measured at		23.0			C	0.1	0.1	02/13/13 0:00	abm
Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	0.01	B	*	mg/L	0.01	0.05	02/07/13 21:58	pjb
Residue, Filterable (TDS) @180C	SM2540C	190		*	mg/L	10	20	02/08/13 16:31	ljr
Residue, Non-Filterable (TSS) @105C	SM2540D	7	B	*	mg/L	5	20	02/08/13 17:22	ljr
Sulfate	D516-02 - Turbidimetric	79		*	mg/L	5	30	02/18/13 15:53	lhb
TDS (calculated)	Calculation	182			mg/L	10	50	02/19/13 9:37	calc
TDS (ratio - measured/calculated)	Calculation	1.04						02/19/13 9:37	calc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: M-3 ABOVE/UPSTREAM FROM YELLOW ROS

ACZ Sample ID: **L10542-03**

Date Sampled: 02/06/13 10:00

Date Received: 02/07/13

Sample Matrix: Waste Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/14/13 13:19	lhb
Cyanide, WAD	SM4500-CN I- distillation							02/14/13 12:04	lhb
Total Hot Plate Digestion	M200.2 ICP							02/11/13 17:30	aeb

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 9:56	jjc
Aluminum, total	M200.7 ICP	0.04	B		mg/L	0.03	0.2	02/12/13 12:15	aeb
Antimony, dissolved	M200.8 ICP-MS	0.0025			mg/L	0.0004	0.002	02/14/13 23:41	msh
Arsenic, dissolved	M200.8 ICP-MS	0.0025			mg/L	0.0002	0.001	02/14/13 23:41	msh
Barium, dissolved	M200.7 ICP	0.030			mg/L	0.003	0.02	02/11/13 18:36	jjc
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:41	msh
Boron, dissolved	M200.7 ICP	0.03	B		mg/L	0.01	0.05	02/11/13 15:50	jjc
Cadmium, dissolved	M200.8 ICP-MS	0.0014			mg/L	0.0001	0.0005	02/14/13 23:41	msh
Calcium, dissolved	M200.7 ICP	65.7			mg/L	0.2	1	02/11/13 15:50	jjc
Chromium, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/14/13 23:41	msh
Copper, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.003	02/14/13 23:41	msh
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	02/11/13 15:50	jjc
Iron, total	M200.7 ICP	0.09			mg/L	0.02	0.05	02/12/13 12:15	aeb
Lead, dissolved	M200.8 ICP-MS	0.0011			mg/L	0.0001	0.0005	02/14/13 23:41	msh
Magnesium, dissolved	M200.7 ICP	2.8			mg/L	0.2	1	02/11/13 15:50	jjc
Manganese, dissolved	M200.7 ICP	2.380			mg/L	0.005	0.03	02/11/13 18:36	jjc
Mercury, dissolved	M245.1 CVAA	0.0002	B		mg/L	0.0002	0.001	02/11/13 15:25	mfm
Molybdenum, dissolved	M200.8 ICP-MS	0.0037			mg/L	0.0005	0.003	02/14/13 23:41	msh
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:50	jjc
Potassium, dissolved	M200.7 ICP	0.6	B		mg/L	0.3	2	02/11/13 15:50	jjc
Selenium, dissolved	M200.8 ICP-MS	0.0004			mg/L	0.0001	0.0003	02/14/13 23:41	msh
Silica, dissolved	M200.7 ICP	7.9			mg/L	0.4	2	02/11/13 18:36	jjc
Silver, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:41	msh
Sodium, dissolved	M200.7 ICP	8.9			mg/L	0.3	2	02/11/13 15:50	jjc
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:41	msh
Uranium, dissolved	M200.8 ICP-MS	0.0004	B		mg/L	0.0001	0.0005	02/14/13 23:41	msh
Vanadium, dissolved	M200.7 ICP	0.009	B		mg/L	0.005	0.03	02/11/13 15:50	jjc
Zinc, dissolved	M200.7 ICP	0.54			mg/L	0.01	0.05	02/11/13 15:50	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: M-3 ABOVE/UPSTREAM FROM YELLOW ROS

ACZ Sample ID: **L10542-03**

Date Sampled: 02/06/13 10:00

Date Received: 02/07/13

Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		52			mg/L	2	20	02/13/13 0:00	abm
Carbonate as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Hydroxide as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Total Alkalinity		52			mg/L	2	20	02/13/13 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.2			%			02/19/13 9:37	calc
Sum of Anions		4			meq/L	0.1	0.5	02/19/13 9:37	calc
Sum of Cations		4.1			meq/L	0.1	0.5	02/19/13 9:37	calc
Chloride	SM4500Cl-E		U	*	mg/L	1	5	02/13/13 15:33	lhb
Conductivity @25C	SM2510B	406			umhos/cm	1	10	02/13/13 18:57	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 18:40	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 15:15	bsu
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/11/13 16:45	abm
Hardness as CaCO ₃	SM2340B - Calculation	176			mg/L	1	7	02/19/13 9:37	calc
Lab Filtration (0.45um) & Acidification	M200.7/200.8							02/08/13 12:25	las
Lab Filtration (glass fiber filter)	SOPWC050							02/07/13 14:44	ljr
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.14			mg/L	0.02	0.1	02/14/13 23:24	pjb
pH (lab)	SM4500H+ B								
pH		8.1	H		units	0.1	0.1	02/13/13 0:00	abm
pH measured at		23.0			C	0.1	0.1	02/13/13 0:00	abm
Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	0.01	B	*	mg/L	0.01	0.05	02/07/13 21:59	pjb
Residue, Filterable (TDS) @180C	SM2540C	280		*	mg/L	10	20	02/08/13 16:32	ljr
Residue, Non-Filterable (TSS) @105C	SM2540D		U	*	mg/L	5	20	02/08/13 17:23	ljr
Sulfate	D516-02 - Turbidimetric	138		*	mg/L	5	30	02/18/13 15:53	lhb
TDS (calculated)	Calculation	258			mg/L	10	50	02/19/13 9:37	calc
TDS (ratio - measured/calculated)	Calculation	1.09						02/19/13 9:37	calc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: M-4 ATLAS DISCHARGE

ACZ Sample ID: **L10542-04**

Date Sampled: 02/06/13 10:15

Date Received: 02/07/13

Sample Matrix: Waste Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/14/13 13:38	lhb
Cyanide, WAD	SM4500-CN I- distillation							02/14/13 12:11	lhb
Total Hot Plate Digestion	M200.2 ICP							02/11/13 17:41	aeb

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 10:06	jjc
Aluminum, total	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 12:18	aeb
Antimony, dissolved	M200.8 ICP-MS		U		mg/L	0.0004	0.002	02/14/13 23:51	msh
Arsenic, dissolved	M200.8 ICP-MS	0.0036			mg/L	0.0002	0.001	02/14/13 23:51	msh
Barium, dissolved	M200.7 ICP	0.030			mg/L	0.003	0.02	02/11/13 18:46	jjc
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:51	msh
Boron, dissolved	M200.7 ICP	0.02	B		mg/L	0.01	0.05	02/11/13 15:59	jjc
Cadmium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:51	msh
Calcium, dissolved	M200.7 ICP	44.6			mg/L	0.2	1	02/11/13 15:59	jjc
Chromium, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/14/13 23:51	msh
Copper, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.003	02/14/13 23:51	msh
Iron, dissolved	M200.7 ICP	0.02	B		mg/L	0.02	0.05	02/11/13 15:59	jjc
Iron, total	M200.7 ICP	0.85			mg/L	0.02	0.05	02/12/13 12:18	aeb
Lead, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:51	msh
Magnesium, dissolved	M200.7 ICP	2.8			mg/L	0.2	1	02/11/13 15:59	jjc
Manganese, dissolved	M200.7 ICP	2.900			mg/L	0.005	0.03	02/11/13 18:46	jjc
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/11/13 15:28	mfm
Molybdenum, dissolved	M200.8 ICP-MS	0.0038			mg/L	0.0005	0.003	02/14/13 23:51	msh
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 15:59	jjc
Potassium, dissolved	M200.7 ICP	0.9	B		mg/L	0.3	2	02/11/13 15:59	jjc
Selenium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0003	02/14/13 23:51	msh
Silica, dissolved	M200.7 ICP	6.3			mg/L	0.4	2	02/11/13 18:46	jjc
Silver, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:51	msh
Sodium, dissolved	M200.7 ICP	12.1		*	mg/L	0.3	2	02/11/13 15:59	jjc
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:51	msh
Uranium, dissolved	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	02/14/13 23:51	msh
Vanadium, dissolved	M200.7 ICP		U		mg/L	0.005	0.03	02/11/13 15:59	jjc
Zinc, dissolved	M200.7 ICP	0.43			mg/L	0.01	0.05	02/11/13 15:59	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine
Sample ID: M-4 ATLAS DISCHARGE

ACZ Sample ID: **L10542-04**
Date Sampled: 02/06/13 10:15
Date Received: 02/07/13
Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		79			mg/L	2	20	02/13/13 0:00	abm
Carbonate as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Hydroxide as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Total Alkalinity		79			mg/L	2	20	02/13/13 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-5.9			%			02/19/13 9:37	calc
Sum of Anions		3.6			meq/L	0.1	0.5	02/19/13 9:37	calc
Sum of Cations		3.2			meq/L	0.1	0.5	02/19/13 9:37	calc
Chloride	SM4500Cl-E		U	*	mg/L	1	5	02/13/13 15:33	lhb
Conductivity @25C	SM2510B	316			umhos/cm	1	10	02/13/13 19:06	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 18:42	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 15:16	bsu
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/11/13 16:48	abm
Hardness as CaCO ₃	SM2340B - Calculation	123			mg/L	1	7	02/19/13 9:37	calc
Lab Filtration (0.45um) & Acidification	M200.7/200.8							02/08/13 12:30	las
Lab Filtration (glass fiber filter)	SOPWC050							02/07/13 14:46	ljr
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved		U		mg/L	0.02	0.1	02/14/13 23:25	pjb
pH (lab)	SM4500H+ B								
pH		8.1	H		units	0.1	0.1	02/13/13 0:00	abm
pH measured at		23.0			C	0.1	0.1	02/13/13 0:00	abm
Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid		U	*	mg/L	0.01	0.05	02/07/13 22:00	pjb
Residue, Filterable (TDS) @180C	SM2540C	190		*	mg/L	10	20	02/08/13 16:33	ljr
Residue, Non-Filterable (TSS) @105C	SM2540D		U	*	mg/L	5	20	02/08/13 17:24	ljr
Sulfate	D516-02 - Turbidimetric	94		*	mg/L	5	30	02/18/13 15:54	lhb
TDS (calculated)	Calculation	212			mg/L	10	50	02/19/13 9:37	calc
TDS (ratio - measured/calculated)	Calculation	0.90						02/19/13 9:37	calc

Star Mine Operations LLC

Project ID: Revenue/Starmine

Sample ID: M-5 UPSTREAM OF ATLAS=REVENUE DISCH

ACZ Sample ID: **L10542-05**

Date Sampled: 02/06/13 10:30

Date Received: 02/07/13

Sample Matrix: Waste Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/14/13 13:57	lhb
Cyanide, WAD	SM4500-CN I- distillation							02/14/13 12:19	lhb
Total Hot Plate Digestion	M200.2 ICP							02/11/13 17:53	aeb

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	02/12/13 10:09	jjc
Aluminum, total	M200.7 ICP	0.17	B		mg/L	0.03	0.2	02/12/13 12:21	aeb
Antimony, dissolved	M200.8 ICP-MS	0.0109			mg/L	0.0004	0.002	02/14/13 23:54	msh
Arsenic, dissolved	M200.8 ICP-MS	0.0067			mg/L	0.0002	0.001	02/14/13 23:54	msh
Barium, dissolved	M200.7 ICP	0.032			mg/L	0.003	0.02	02/11/13 18:49	jjc
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:54	msh
Boron, dissolved	M200.7 ICP	0.04	B		mg/L	0.01	0.05	02/11/13 16:02	jjc
Cadmium, dissolved	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	02/14/13 23:54	msh
Calcium, dissolved	M200.7 ICP	64.6			mg/L	0.2	1	02/11/13 16:02	jjc
Chromium, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.002	02/14/13 23:54	msh
Copper, dissolved	M200.8 ICP-MS	0.0009	B		mg/L	0.0005	0.003	02/14/13 23:54	msh
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	02/11/13 16:02	jjc
Iron, total	M200.7 ICP	0.15			mg/L	0.02	0.05	02/12/13 12:21	aeb
Lead, dissolved	M200.8 ICP-MS	0.0086			mg/L	0.0001	0.0005	02/14/13 23:54	msh
Magnesium, dissolved	M200.7 ICP	3.4			mg/L	0.2	1	02/11/13 16:02	jjc
Manganese, dissolved	M200.7 ICP	0.086			mg/L	0.005	0.03	02/11/13 18:49	jjc
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/11/13 15:30	mfm
Molybdenum, dissolved	M200.8 ICP-MS	0.0104			mg/L	0.0005	0.003	02/14/13 23:54	msh
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	02/11/13 16:02	jjc
Potassium, dissolved	M200.7 ICP	0.8	B		mg/L	0.3	2	02/11/13 16:02	jjc
Selenium, dissolved	M200.8 ICP-MS	0.0006			mg/L	0.0001	0.0003	02/14/13 23:54	msh
Silica, dissolved	M200.7 ICP	7.3			mg/L	0.4	2	02/11/13 18:49	jjc
Silver, dissolved	M200.8 ICP-MS		U		mg/L	0.00005	0.0003	02/14/13 23:54	msh
Sodium, dissolved	M200.7 ICP	12.5		*	mg/L	0.3	2	02/11/13 16:02	jjc
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	02/14/13 23:54	msh
Uranium, dissolved	M200.8 ICP-MS	0.0009			mg/L	0.0001	0.0005	02/14/13 23:54	msh
Vanadium, dissolved	M200.7 ICP	0.008	B		mg/L	0.005	0.03	02/11/13 16:02	jjc
Zinc, dissolved	M200.7 ICP	0.04	B		mg/L	0.01	0.05	02/11/13 16:02	jjc

Star Mine Operations LLC

Project ID: Revenue/Starmine
Sample ID: M-5 UPSTREAM OF ATLAS=REVENUE DISCH

ACZ Sample ID: **L10542-05**
Date Sampled: 02/06/13 10:30
Date Received: 02/07/13
Sample Matrix: Waste Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		68			mg/L	2	20	02/13/13 0:00	abm
Carbonate as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Hydroxide as CaCO ₃			U		mg/L	2	20	02/13/13 0:00	abm
Total Alkalinity		68			mg/L	2	20	02/13/13 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			02/19/13 9:37	calc
Sum of Anions		4.1			meq/L	0.1	0.5	02/19/13 9:37	calc
Sum of Cations		4.1			meq/L	0.1	0.5	02/19/13 9:37	calc
Chloride	SM4500Cl-E	1	B	*	mg/L	1	5	02/13/13 15:34	lhb
Conductivity @25C	SM2510B	403			umhos/cm	1	10	02/13/13 19:14	abm
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 18:44	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 15:17	bsu
Fluoride	SM4500F-C	0.4	B	*	mg/L	0.1	0.5	02/11/13 16:52	abm
Hardness as CaCO ₃	SM2340B - Calculation	175			mg/L	1	7	02/19/13 9:37	calc
Lab Filtration (0.45um) & Acidification	M200.7/200.8							02/08/13 12:35	las
Lab Filtration (glass fiber filter)	SOPWC050							02/07/13 14:48	ljr
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.10			mg/L	0.02	0.1	02/14/13 23:26	pjb
pH (lab)	SM4500H+ B								
pH		8.3	H		units	0.1	0.1	02/13/13 0:00	abm
pH measured at		22.0			C	0.1	0.1	02/13/13 0:00	abm
Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	0.01	B	*	mg/L	0.01	0.05	02/07/13 22:03	pjb
Residue, Filterable (TDS) @180C	SM2540C	270		*	mg/L	10	20	02/08/13 16:34	ljr
Residue, Non-Filterable (TSS) @105C	SM2540D		U	*	mg/L	5	20	02/08/13 17:25	ljr
Sulfate	D516-02 - Turbidimetric	126		*	mg/L	5	30	02/18/13 15:54	lhb
TDS (calculated)	Calculation	257			mg/L	10	50	02/19/13 9:37	calc
TDS (ratio - measured/calculated)	Calculation	1.05						02/19/13 9:37	calc

Star Mine Operations LLC

Project ID: Revenue/Starmine
Sample ID: CN TB020113-1

ACZ Sample ID: **L10542-06**
Date Sampled: 02/06/13 00:00
Date Received: 02/07/13
Sample Matrix: Waste Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							02/14/13 14:07	lhb
Cyanide, WAD	SM4500-CN I- distillation							02/14/13 12:26	lhb

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 18:45	pjb
Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation		U	*	mg/L	0.003	0.01	02/14/13 15:18	bsu

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit, typically 5 times the MDL.
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

<http://www.acz.com/public/extquallist.pdf>

Star Mine Operations LLC

ACZ Project ID: **L10542**

Alkalinity as CaCO3

SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338885													
WG338885PBW1	PBW	02/13/13 13:17				11.5	mg/L		-20	20			
WG338885LCSW2	LCSW	02/13/13 13:30	WC130129-	820		776	mg/L	94.6	90	110			
WG338885LCSW5	LCSW	02/13/13 17:02	WC130129-	820		783	mg/L	95.5	90	110			
WG338885PBW2	PBW	02/13/13 17:10				U	mg/L		-20	20			
L10541-03DUP	DUP	02/13/13 18:35			39	39.4	mg/L				1	20	
WG338885LCSW8	LCSW	02/13/13 21:04	WC130129-	820		798.4	mg/L	97.4	90	110			
WG338885PBW3	PBW	02/13/13 21:12				3.8	mg/L		-20	20			
WG338885LCSW11	LCSW	02/14/13 0:26	WC130129-	820		794.5	mg/L	96.9	90	110			
WG338885PBW4	PBW	02/14/13 0:34				U	mg/L		-20	20			
WG338885LCSW14	LCSW	02/14/13 3:55	WC130129-	820		792.2	mg/L	96.6	90	110			

Aluminum, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338789													
WG338789ICV	ICV	02/12/13 9:10	II130114-3	2		2.06	mg/L	103	95	105			
WG338789ICB	ICB	02/12/13 9:16				U	mg/L		-0.09	0.09			
WG338789LFB	LFB	02/12/13 9:29	II130131-2	1		1.031	mg/L	103.1	85	115			
L10541-02AS	AS	02/12/13 9:41	II130131-2	1	U	1.056	mg/L	105.6	85	115			
L10541-02ASD	ASD	02/12/13 9:44	II130131-2	1	U	1.054	mg/L	105.4	85	115	0.19	20	

Aluminum, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338798													
WG338798ICV	ICV	02/12/13 10:36	II130114-4	2		2.021	mg/L	101.1	95	105			
WG338798ICB	ICB	02/12/13 10:42				U	mg/L		-0.09	0.09			
WG338736LRB	LRB	02/12/13 10:54				U	mg/L		-0.066	0.066			
WG338736LFB	LFB	02/12/13 10:57	II130131-2	1		.988	mg/L	98.8	85	115			
L10542-01LFM	LFM	02/12/13 11:59	II130131-2	1	.08	1.087	mg/L	100.7	70	130			
L10542-01LFMD	LFMD	02/12/13 12:09	II130131-2	1	.08	1.1	mg/L	102	70	130	1.19	20	

Antimony, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.02		.02102	mg/L	105.1	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0012	0.0012			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.01		.01003	mg/L	100.3	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.01	.0015	.01049	mg/L	89.9	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.01	.0015	.01073	mg/L	92.3	70	130	2.26	20	

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05288	mg/L	105.8	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0006	0.0006			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.04922	mg/L	98.3	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	.001	.05752	mg/L	112.9	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	.001	.05909	mg/L	116.1	70	130	2.69	20	

Star Mine Operations LLC

ACZ Project ID: **L10542**

Barium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338781													
WG338781ICV	ICV	02/11/13 17:12	II130114-3	2		1.996	mg/L	99.8	95	105			
WG338781ICB	ICB	02/11/13 17:18				U	mg/L		-0.009	0.009			
WG338781LFB	LFB	02/11/13 17:31	II130131-2	.5		.5013	mg/L	100.3	85	115			
L10541-02AS	AS	02/11/13 18:21	II130131-2	.5	.032	.5391	mg/L	101.4	85	115			
L10541-02ASD	ASD	02/11/13 18:24	II130131-2	.5	.032	.5343	mg/L	100.5	85	115	0.89	20	

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.0464	mg/L	92.8	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.00015	0.00015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.0501		.04629	mg/L	92.4	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.0501	U	.05632	mg/L	112.4	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.0501	U	.05651	mg/L	112.8	70	130	0.34	20	

Boron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		2.051	mg/L	102.6	95	105			
WG338724ICB	ICB	02/11/13 14:34				.013	mg/L		-0.03	0.03			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	.5005		.529	mg/L	105.7	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	.5005	.01	.553	mg/L	108.5	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	.5005	.01	.555	mg/L	108.9	85	115	0.36	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.0513	mg/L	102.6	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.0501		.04892	mg/L	97.6	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.0501	.0003	.05268	mg/L	104.6	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.0501	.0003	.05336	mg/L	105.9	70	130	1.28	20	

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	100		98.13	mg/L	98.1	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.6	0.6			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	67.97554		69.26	mg/L	101.9	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	67.97554	38.3	109.41	mg/L	104.6	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	67.97554	38.3	110.7	mg/L	106.5	85	115	1.17	20	

Star Mine Operations LLC

ACZ Project ID: **L10542**

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338906													
WG338906ICB	ICB	02/13/13 10:53				U	mg/L		-3	3			
WG338906ICV	ICV	02/13/13 10:53	WI130131-1	54.945		57.9	mg/L	105.4	90	110			
WG338906LFB1	LFB	02/13/13 15:24	WI130201-8	30		31.3	mg/L	104.3	90	110			
L10513-01AS	AS	02/13/13 15:26	WI130201-8	30	U	33.9	mg/L	113	90	110			M1
L10513-02DUP	DUP	02/13/13 15:26			U	U	mg/L				0	20	RA
WG338906LFB2	LFB	02/13/13 15:28	WI130201-8	30		31.6	mg/L	105.3	90	110			
L10542-02AS	AS	02/13/13 15:28	WI130201-8	30	U	33.6	mg/L	112	90	110			M1
L10542-03DUP	DUP	02/13/13 15:33			U	U	mg/L				0	20	RA

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.04932	mg/L	98.6	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0015	0.0015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.04906	mg/L	98	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	U	.04775	mg/L	95.4	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	U	.04846	mg/L	96.8	70	130	1.48	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338885													
WG338885LCSW1	LCSW	02/13/13 13:18	PCN41037	1408.8		1429.2	µmhos/crr	101.4	90	110			
WG338885LCSW4	LCSW	02/13/13 16:51	PCN41037	1408.8		1414	µmhos/crr	100.4	90	110			
L10541-03DUP	DUP	02/13/13 18:35			254	254	µmhos/crr				0	20	
WG338885LCSW7	LCSW	02/13/13 20:52	PCN41037	1408.8		1401.9	µmhos/crr	99.5	90	110			
WG338885LCSW10	LCSW	02/14/13 0:14	PCN41037	1408.8		1389.7	µmhos/crr	98.6	90	110			
WG338885LCSW13	LCSW	02/14/13 3:44	PCN41037	1408.8		1374.5	µmhos/crr	97.6	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05064	mg/L	101.3	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0015	0.0015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.04915	mg/L	98.2	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	U	.04814	mg/L	96.2	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	U	.04857	mg/L	97	70	130	0.89	20	

Star Mine Operations LLC

ACZ Project ID: **L10542**

Cyanide, total

M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338708													
WG338708ICV	ICV	02/08/13 21:54	WI130201-7	.3		.3043	mg/L	101.4	90	110			
WG338708ICB	ICB	02/08/13 21:55				U	mg/L		-0.009	0.009			
WG338714													
WG338640LRB	LRB	02/08/13 23:57				U	mg/L		-0.009	0.009			
WG338640LFB	LFB	02/08/13 23:58	WI130201-2	.2		.2146	mg/L	107.3	90	110			
L10497-03DUP	DUP	02/09/13 0:12			U	U	mg/L				0	20	RA
L10497-04LFM	LFM	02/09/13 0:14	WI130201-2	.2	U	.2044	mg/L	102.2	90	110			
WG338936													
WG338936ICV	ICV	02/14/13 0:35	WI130201-7	.3		.3069	mg/L	102.3	90	110			
WG338936ICB	ICB	02/14/13 0:36				U	mg/L		-0.009	0.009			
WG338834LRB	LRB	02/14/13 0:37				U	mg/L		-0.009	0.009			
WG338834LFB	LFB	02/14/13 0:38	WI130201-2	.2		.2082	mg/L	104.1	90	110			
L10538-01DUP	DUP	02/14/13 0:40			U	U	mg/L				0	20	RA
L10542-02LFM	LFM	02/14/13 0:41	WI130201-2	.2	U	.1984	mg/L	99.2	90	110			
WG339013													
WG339013ICV	ICV	02/14/13 18:37	WI130201-7	.3		.2899	mg/L	96.6	90	110			
WG339013ICB	ICB	02/14/13 18:38				U	mg/L		-0.009	0.009			
WG338993LRB	LRB	02/14/13 18:38				U	mg/L		-0.009	0.009			
WG338993LFB	LFB	02/14/13 18:39	WI130201-2	.2		.1834	mg/L	91.7	90	110			
L10542-03DUP	DUP	02/14/13 18:41			U	U	mg/L				0	20	RA
L10542-04LFM	LFM	02/14/13 18:43	WI130201-2	.2	U	.0883	mg/L	44.2	90	110			M2

Cyanide, WAD

SM4500-CN I-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338969													
WG338969ICV	ICV	02/14/13 10:37	WI130201-7	.3		.2931	mg/L	97.7	90	110			
WG338969ICB	ICB	02/14/13 10:38				U	mg/L		-0.009	0.009			
WG339008													
WG338968LRB	LRB	02/14/13 15:10				U	mg/L		-0.009	0.009			
WG338968LFB	LFB	02/14/13 15:11	WI130201-4	.2		.2051	mg/L	102.6	90	110			
L10542-01DUP	DUP	02/14/13 15:13			U	U	mg/L				0	20	RA
L10542-02LFM	LFM	02/14/13 15:14	WI130201-4	.2	U	.2032	mg/L	101.6	90	110			

Fluoride

SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338746													
WG338746ICV	ICV	02/11/13 11:51	WC130208-	2.002		1.94	mg/L	96.9	95	105			
WG338746ICB	ICB	02/11/13 11:58				U	mg/L		-0.3	0.3			
WG338746LFB1	LFB	02/11/13 12:07	WC121017-	5.005		5.02	mg/L	100.3	90	110			
WG338746LFB2	LFB	02/11/13 14:50	WC121017-	5.005		5.05	mg/L	100.9	90	110			
L10541-01AS	AS	02/11/13 16:22	WC121017-	5.005	.2	5.36	mg/L	103.1	90	110			
L10541-01DUP	DUP	02/11/13 16:27			.2	.22	mg/L				9.5	20	RA

Star Mine Operations LLC

ACZ Project ID: **L10542**

Iron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		1.958	mg/L	97.9	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.06	0.06			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	1		1.058	mg/L	105.8	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	1	U	1.041	mg/L	104.1	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	1	U	1.051	mg/L	105.1	85	115	0.96	20	

Iron, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338798													
WG338798ICV	ICV	02/12/13 10:36	II130114-4	2		1.975	mg/L	98.8	95	105			
WG338798ICB	ICB	02/12/13 10:42				U	mg/L		-0.06	0.06			
WG338736LRB	LRB	02/12/13 10:54				U	mg/L		-0.044	0.044			
WG338736LFB	LFB	02/12/13 10:57	II130131-2	1		1.001	mg/L	100.1	85	115			
L10542-01LFM	LFM	02/12/13 11:59	II130131-2	1	.12	1.112	mg/L	100.2	70	130			
L10542-01LFMD	LFMD	02/12/13 12:09	II130131-2	1	.12	1.11	mg/L	100	70	130	0.18	20	

Lead, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05353	mg/L	107.1	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.0525	mg/L	104.9	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	.0021	.05369	mg/L	103.1	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	.0021	.0548	mg/L	105.3	70	130	2.05	20	

Magnesium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	100		100.88	mg/L	100.9	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.6	0.6			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	50.00131		50.64	mg/L	101.3	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	50.00131	2.2	54.79	mg/L	105.2	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	50.00131	2.2	55.05	mg/L	105.7	85	115	0.47	20	

Manganese, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338781													
WG338781ICV	ICV	02/11/13 17:12	II130114-3	2		1.9212	mg/L	96.1	95	105			
WG338781ICB	ICB	02/11/13 17:18				U	mg/L		-0.015	0.015			
WG338781LFB	LFB	02/11/13 17:31	II130131-2	.5		.4935	mg/L	98.7	85	115			
L10541-02AS	AS	02/11/13 18:21	II130131-2	.5	U	.5041	mg/L	100.8	85	115			
L10541-02ASD	ASD	02/11/13 18:24	II130131-2	.5	U	.4998	mg/L	100	85	115	0.86	20	

Star Mine Operations LLC

ACZ Project ID: **L10542**

Mercury, dissolved

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338635													
WG338635ICV	ICV	02/11/13 13:11	II130201-1	.005025		.00492	mg/L	97.9	95	105			
WG338635ICB	ICB	02/11/13 13:13				U	mg/L		-0.0002	0.0002			
WG338725													
WG338725LRB	LRB	02/11/13 14:28				U	mg/L		-0.00044	0.00044			
WG338725LFB	LFB	02/11/13 14:30	II130204-3	.002002		.00181	mg/L	90.4	85	115			
L10535-01LFM	LFM	02/11/13 15:09	II130204-3	.002002	U	.00184	mg/L	91.9	85	115			
L10535-01LFMD	LFMD	02/11/13 15:11	II130204-3	.002002	U	.00174	mg/L	86.9	85	115	5.59	20	

Molybdenum, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.02004		.0202	mg/L	100.8	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0015	0.0015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05		.0487	mg/L	97.4	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05	.0018	.05055	mg/L	97.5	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05	.0018	.05143	mg/L	99.3	70	130	1.73	20	

Nickel, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		1.933	mg/L	96.7	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.03	0.03			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	.5		.498	mg/L	99.6	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	.5	U	.485	mg/L	97	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	.5	U	.505	mg/L	101	85	115	4.04	20	

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339018													
WG339018ICV	ICV	02/14/13 22:19	WI130110-1	2.416		2.381	mg/L	98.6	90	110			
WG339018ICB	ICB	02/14/13 22:21				U	mg/L		-0.06	0.06			
WG339020													
WG339020LFB	LFB	02/14/13 23:18	WI120814-9	2		1.867	mg/L	93.4	90	110			
L10542-01AS	AS	02/14/13 23:20	WI120814-9	2	.15	2.159	mg/L	100.5	90	110			
L10542-02DUP	DUP	02/14/13 23:23			.2	.193	mg/L				3.6	20	

pH (lab)

SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338885													
WG338885LCSW3	LCSW	02/13/13 13:33	PCN40853	6		6.02	units	100.3	98	102			
WG338885LCSW6	LCSW	02/13/13 17:05	PCN40853	6		6.02	units	100.3	98	102			
L10541-03DUP	DUP	02/13/13 18:35			8	8.03	units				0.4	20	
WG338885LCSW9	LCSW	02/13/13 21:07	PCN40853	6		6.01	units	100.2	98	102			
WG338885LCSW12	LCSW	02/14/13 0:29	PCN40853	6		6.02	units	100.3	98	102			
WG338885LCSW15	LCSW	02/14/13 3:59	PCN40853	6		6.02	units	100.3	98	102			

Star Mine Operations LLC

ACZ Project ID: **L10542**

Phosphorus, ortho dissolved

M365.1 - Automated Ascorbic Acid

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338646													
WG338646ICV	ICV	02/07/13 21:46	WI120417-2	.65228		.63	mg/L	96.6	90	110			
WG338646ICB	ICB	02/07/13 21:47				U	mg/L		-0.03	0.03			
WG338646LFB	LFB	02/07/13 21:50	WI130128-2	.5		.497	mg/L	99.4	90	110			
L10541-01AS	AS	02/07/13 21:52	WI130128-2	.5	.02	.499	mg/L	95.8	90	110			
L10541-02DUP	DUP	02/07/13 21:54			.01	.011	mg/L				9.5	20	RA

Potassium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	20		20	mg/L	100	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.9	0.9			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	99.90868		101.55	mg/L	101.6	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	99.90868	.6	104.45	mg/L	103.9	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	99.90868	.6	106.1	mg/L	105.6	85	115	1.57	20	

Residue, Filterable (TDS) @180C

SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338632													
WG338632PBW	PBW	02/07/13 16:21				10	mg/L		-20	20			
WG338632LCSW	LCSW	02/07/13 16:21	PCN41149	260		262	mg/L	100.8	80	120			
L10552-01DUP	DUP	02/07/13 16:40			410	406	mg/L				1	20	
WG338701													
WG338701PBW	PBW	02/08/13 16:30				U	mg/L		-20	20			
WG338701LCSW	LCSW	02/08/13 16:30	PCN41149	260		254	mg/L	97.7	80	120			
L10547-01DUP	DUP	02/08/13 16:40			U	U	mg/L				0	20	RA

Residue, Non-Filterable (TSS) @105C

SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338688													
WG338688PBW	PBW	02/08/13 14:00				U	mg/L		-6	6			
WG338688LCSW	LCSW	02/08/13 14:01	PCN41149	160		152	mg/L	95	80	120			
L10571-02DUP	DUP	02/08/13 14:29			580	520	mg/L				10.9	20	
WG338704													
WG338704PBW	PBW	02/08/13 17:20				U	mg/L		-15	15			
WG338704LCSW	LCSW	02/08/13 17:21	PCN41149	160		147	mg/L	91.9	80	120			
L10573-05DUP	DUP	02/08/13 17:34			U	U	mg/L				0	20	RA

Selenium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.0515	mg/L	103	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.04967	mg/L	99.2	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	.0005	.05787	mg/L	114.6	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	.0005	.06033	mg/L	119.5	70	130	4.16	20	

Star Mine Operations LLC

ACZ Project ID: **L10542**

Silica, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338781													
WG338781ICV	ICV	02/11/13 17:12	II130114-3	42.8		43.23	mg/L	101	95	105			
WG338781ICB	ICB	02/11/13 17:18				U	mg/L		-1.2	1.2			
WG338781LFB	LFB	02/11/13 17:31	II130131-2	21.428		22.45	mg/L	104.8	85	115			
L10541-02AS	AS	02/11/13 18:21	II130131-2	21.428	5.8	28.7	mg/L	106.9	85	115			
L10541-02ASD	ASD	02/11/13 18:24	II130131-2	21.428	5.8	28.27	mg/L	104.9	85	115	1.51	20	

Silver, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.02006		.02071	mg/L	103.2	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.00015	0.00015			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.01001		.009618	mg/L	96.1	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.01001	U	.009495	mg/L	94.9	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.01001	U	.009458	mg/L	94.5	70	130	0.39	20	

Sodium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	100		100.43	mg/L	100.4	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.9	0.9			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	100.0416		101.98	mg/L	101.9	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	100.0416	4.1	107.61	mg/L	103.5	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	100.0416	4.1	109.2	mg/L	105.1	85	115	1.47	20	

Sulfate

D516-02 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339137													
WG339137ICB	ICB	02/18/13 14:49				U	mg/L		-3	3			
WG339137ICV	ICV	02/18/13 14:49	WI130214-2	20		20	mg/L	100	90	110			
WG339137LFB	LFB	02/18/13 15:41	WI121025-3	10		10.4	mg/L	104	90	110			
L10541-02DUP	DUP	02/18/13 15:51			82	82.5	mg/L				0.6	20	
L10541-03AS	AS	02/18/13 15:51	SO4TURB5	10	78	86.9	mg/L	89	90	110			M3

Thallium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05439	mg/L	108.8	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05005		.05278	mg/L	105.5	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05005	U	.05308	mg/L	106.1	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05005	U	.05327	mg/L	106.4	70	130	0.36	20	

Star Mine Operations LLC

ACZ Project ID: **L10542**

Uranium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG339005													
WG339005ICV	ICV	02/14/13 22:28	MS130102-2	.05		.05263	mg/L	105.3	90	110			
WG339005ICB	ICB	02/14/13 22:31				U	mg/L		-0.0003	0.0003			
WG339005LFB	LFB	02/14/13 22:34	MS130108-1	.05		.05202	mg/L	104	85	115			
L10541-03AS	AS	02/14/13 23:28	MS130108-1	.05	.0001	.0517	mg/L	103.2	70	130			
L10541-03ASD	ASD	02/14/13 23:31	MS130108-1	.05	.0001	.0528	mg/L	105.4	70	130	2.11	20	

Vanadium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		2.0767	mg/L	103.8	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.015	0.015			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	.5		.5289	mg/L	105.8	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	.5	.006	.5371	mg/L	106.2	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	.5	.006	.5399	mg/L	106.8	85	115	0.52	20	

Zinc, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG338724													
WG338724ICV	ICV	02/11/13 14:30	II130114-3	2		1.954	mg/L	97.7	95	105			
WG338724ICB	ICB	02/11/13 14:34				U	mg/L		-0.03	0.03			
WG338724LFB	LFB	02/11/13 14:46	II130131-2	.5		.518	mg/L	103.6	85	115			
L10541-02AS	AS	02/11/13 15:35	II130131-2	.5	.17	.682	mg/L	102.4	85	115			
L10541-02ASD	ASD	02/11/13 15:38	II130131-2	.5	.17	.696	mg/L	105.2	85	115	2.03	20	

Star Mine Operations LLC

ACZ Project ID: **L10542**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L10542-01	WG338906	Chloride	SM4500CI-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500CI-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338714	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339008	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338746	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338646	Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M365.1 - Automated Ascorbic Acid	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG339137	Sulfate	D516-02 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L10542-02	WG338906	Chloride	SM4500CI-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500CI-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338936	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339008	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338746	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338646	Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M365.1 - Automated Ascorbic Acid	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG338701	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338704	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339137	Sulfate	D516-02 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Star Mine Operations LLC

ACZ Project ID: **L10542**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L10542-03	WG338906	Chloride	SM4500CI-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500CI-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339013	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339008	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338746	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338646	Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M365.1 - Automated Ascorbic Acid	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG338701	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338704	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339137	Sulfate	D516-02 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Star Mine Operations LLC

ACZ Project ID: **L10542**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L10542-04	WG338724	Sodium, dissolved	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG338906	Chloride	SM4500CI-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500CI-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339013	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339008	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338746	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338646	Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M365.1 - Automated Ascorbic Acid	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG338701	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338704	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339137	Sulfate	D516-02 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Star Mine Operations LLC

ACZ Project ID: **L10542**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L10542-05	WG338724	Sodium, dissolved	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG338906	Chloride	SM4500CI-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500CI-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339013	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339008	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338746	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG338646	Phosphorus, ortho dissolved	M365.1 - Automated Ascorbic Acid	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M365.1 - Automated Ascorbic Acid	ZU	Analysis date/time precedes filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG338701	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L10542-06	WG338704	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339137	Sulfate	D516-02 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG339013	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG339008	Cyanide, WAD	SM4500-CN I-Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Star Mine Operations LLC

ACZ Project ID: **L10542**

No certification qualifiers associated with this analysis

Star Mine Operations LLC
Revenue/Starmine

ACZ Project ID: L10542
Date Received: 02/07/2013 10:20
Received By: ksj
Date Printed: 2/7/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?	☐	☐	☒
2) Is the Chain of Custody or other directive shipping papers present?	☒	☐	☐
3) Does this project require special handling procedures such as CLP protocol?	☐	☐	☒
4) Are any samples NRC licensable material?	☐	☐	☒
5) If samples are received past hold time, proceed with requested short hold time analyses?	☒	☐	☐
6) Is the Chain of Custody complete and accurate?	☒	☐	☐
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples? A change was made in the project information section prior to ACZ custody.	☒	☐	☐

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	☒	☐	☐
9) Are all labels on containers and are they intact and legible?	☒	☐	☐
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?	☒	☐	☐
11) For preserved bottle types, was the pH checked and within limits?	☒	☐	☐
12) Is there sufficient sample volume to perform all requested work?	☒	☐	☐
13) Is the custody seal intact on all containers?	☐	☐	☒
14) Are samples that require zero headspace acceptable?	☐	☐	☒
15) Are all sample containers appropriate for analytical requirements?	☒	☐	☐
16) Is there an Hg-1631 trip blank present?	☐	☐	☒
17) Is there a VOA trip blank present?	☐	☐	☒
18) Were all samples received within hold time?	☒	☐	☐

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
-----	-----	-----	-----
2290	0.7	18	Yes

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.



Laboratories, Inc.

L10542

CHAIN OF CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Name: JOHN R. TRUJILLO
 Company: STAR MINE OPERATIONS
 E-mail: JRTRUJILLO@SLVRSTAR.COM

Address: PO BOX 835
219 10th AVE OURAY CO 81427
 Telephone: 970 596-4082

Name: RORY WILLIAMS
 Company: SILVER STAR RESOURCES

E-mail: rory@SLVRSTAR.COM
 Telephone: (303) 534-6500

Name: RORY WILLIAMS
 Company: STAR MINE OPERATIONS
 E-mail: RORY@SLVRSTAR.COM

Address: 1675 LARIMER ST Suite #B210
DENVER CO 80202
 Telephone: (303) 534-6500

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES ☒
 NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

Are samples for SDWA Compliance Monitoring?

Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: PITTS Sampler's site Information State CO Zip code 80427 Time Zone MT

Quote #: UNDER GROUND
 Project/PO #: REVENUE / ~~SILVER~~ STAR MINE
 Reporting state for compliance testing:
 Check box if samples include NRC licensed material? ☐

of Containers

M-1 PORTAL 2/6/2013 9:30a
 M-2 YELLOW ROSE DISCHARGE 2/6/13 9:45a
 M-3 ABOVE/UPSTREAM FROM YELLOW ROSE 2/6/13 10a
 M-4 ATLAS DISCHARGE 2/6/13 10:15a
 M-5 UPSTREAM OF ATLAS = REVENUE DISCHARGE 2/6/13 10:30

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

OF THIS REPORT TO GREG LEWICKI AT
 PLEASE SEND A COPY TO GREG@LEWICKI.BIZ

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

Marta R Pitts

L78

2/13/10:00

L10542 Chain of Custody

2/6/2013 UNDERGROUND

T° NPM Color/Desc

METER

MW-1 39.5° 152 gpm Slightly Cloudy

0.8

(PORTAL)

MW-2 35° 10 gpm Moderately Cloudy

(YR DRIFT)

MW-3 39° 142 gpm MOD. CLEAR

(UPSTREAM OF YR-10 REV DITCH)

MW-4 49.5° 5 gpm MOD. CLEAR

(ATLAS DISCHARGE)

MW-5 48° 127 gpm Slightly Cloudy

(REV. DITCH ABOVE ATLAS)

SURFACE AIR TEMP 8:20 A.M. 19°
11 A.M. 21°

SW-1 N/A FROZEN

SW-2 31° 673 gpm CLEAR

(SUEFFELS ABOVE ATLAS)

SW-3 33.5° 41 gpm SLIGHT CLOUD

(SEEP - REV. LAKE)

SW-4 33.5° 214 gpm MOD. CLEAR

2.5

1st Quarter 2013